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MARKETING SERVICE PROGRAMS

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U. S. DEPARTMENT OF AGRICULTURE

Conducted by

STATE DEPARTMENTS OF AGRICULTURE

Under the Agricultural Marketing Act of 1946

in cooperation with

UNITED STATES

DEPARTMENT OF AGRICULTURE

October 1, 1953 - September 30, 1954

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
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MARKETING SERVICE PROGRAMS CONDUCTED BY STATE DEPARTMENTS OF AGRICULTURE UNDER THE AGRICULTURAL MARKETING ACT OF 1946

(For the period October 1, 1953 - September 30, 1954)

INTRODUCTION

The matched fund marketing service work being carried on by State departments of agriculture, under the authorization of the Agricultural Marketing Act of 1946, has these aims: To help marketing agencies at each level of distribution to put into use the best known marketing practices as they are brought to light by research under the Act and by other agencies, both private and public; to provide more timely and better market information; and to increase the consumption of farm products. These marketing service activities have been in operation since 1947.

In 1953-54, there were in the program 31 States, and Alaska, Hawaii, and the Commonwealth of Puerto Rico. The States were Alabama, Arkansas, California, Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nebraska, New York, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Virginia, Washington, West Virginia, Wisconsin, and Wyoming. Cooperation and assistance in insuring maximum effectiveness of this work are being provided by industry and trade groups, growers, State extension services and experiment stations, vocational educational agencies, various agencies in the U. S. Department of Agriculture, and other interested groups. In some States industry groups are helping to pay the cost of the work.

For the operation of marketing service activities on a matched fund basis, allotments are made to States under cooperative agreements between the U. S. Department of Agriculture and State departments of agriculture, bureaus of markets, and similar State agencies. The States engaged in the program submit projects each year to the Agricultural Marketing Service for approval. These projects, called "line projects," fall into 3 major fields of work, each field being covered by a "work project." During the period covered by this report 79 line projects were active under the 3 work projects:

1. Expanding market outlets and maintaining product quality (Work project 2550).--

   a. Finding markets for local seasonal surpluses.

   Producers are assisted in disposing of local seasonal surpluses by special information services under which shippers,

brokers, truckers, and other potential buyers are provided with up-to-date information on location, anticipated supplies, harvest dates, and peak production periods for the products concerned, and by special promotional campaigns during the surplus periods.

b. Increasing consumption of products chronically in abundant supply.

Services designed to increase consumption on a long-time basis include: (1) Assistance to producers, shippers, wholesalers, and retailers in improving the effectiveness of their merchandising and advertising activities; (2) special surveys to ascertain the opinion of the trade regarding the changes shippers might make in their grading, packing, merchandising, and other marketing methods to improve the consumer acceptability of their products; and (3) assistance in determining where additional outlets—such as milk-vending machines—should be established to justify their permanent installation.

c. Maintaining product quality.

In connection with quality maintenance, improved grading, packing, storing, and other marketing methods are discussed with and demonstrated to the various agencies concerned and firsthand assistance in their application is provided at the farm, the local assembly point, the processing plant, the storage facility, the wholesale market, the retail store, and in transit between these points. Also State label programs for various products are being encouraged to provide an incentive for quality marketing.

Work in the quality maintenance field includes assistance in developing improved marketing methods as well as assistance and demonstration in applying existing techniques. For instance, recent developments in objective methods of determining maturity of growing crops permit growers, packers, and processors to better judge when harvesting operations should begin and assist enforcement agencies in grades and standards work. Tests of the incidence of bruising and damage, using various packing and loading techniques, indicate where improvements are needed in these operations.

2. Reducing costs and improving operating efficiency (Work Project 3550).—

Under this project, marketing agencies are shown the kinds of handling equipment and methods best suited to their operations, and assistance is provided in improving existing facilities and in designing and locating new facilities such as livestock

auctions, poultry processing plants, grain elevators, milk plants, fruit and vegetable assembly markets, and terminal markets.

3. Providing market information (Work Project 4550).—

a. Helping marketers make current decisions.

Experimental market news services are being provided for local markets not now covered by regular services. Local market news information is increasing in importance with the trend in marketing toward decentralized packing and processing, the by-passing of terminal markets, and direct selling at country points. These experimental programs are limited to a 2-year period. If successful, they may be supported with regular funds at the close of the experimental period.

b. Developing information useful in planning marketing programs.

Information helpful in program planning include information to supplement the Crop and Livestock Reporting Service on such subjects as trends in production, changes in consumer demand, the competitive situation in markets, storage holdings and rate of disappearance, and data designed to yield a basis for more dependable crop estimates such as censuses on fruit trees, and objective samplings of crops at various stages of growth. The collection, analysis, and dissemination of these types of data are handled by the Federal-State statisticians in the various States.

This progress report for October 1953 - September 1954, which has been prepared from material submitted by the States, presents: (1) Some examples of marketing service work by major commodities, (2) summaries of marketing service work by States and line projects, and (3) a list of publications that have been issued in the conduct of this work.

SOME EXAMPLES OF MARKETING SERVICE WORK BY MAJOR COMMODITIES

Dairy Products

Assistance in improving and widening the distribution of dairy products was provided by State departments of agriculture in North Carolina, Louisiana, Kentucky, Washington, Alaska, Kansas, and Wisconsin. In Washington, the dairy industry formed an "Extra Milk Marketing Committee," to develop wider distribution of milk. This committee, composed of representatives of producers, processors, and other allied groups, believed that the lack of availability of milk at possible

consuming points was a major deterrent to the expansion of milk consumption. To help correct this situation, the committee requested that the State department of agriculture assist in testing the use of vending machines strategically located in factories, depots, schools, and elsewhere.

With the help of vending machine companies, who loaned machines for this project, information was gathered regarding the types of locations where sufficient quantities of milk would be consumed to justify the permanent installation of vending machines. Also, valuable data were obtained on milk-consumption habits of persons engaged in various types of activity. For instance, men working in heavy industry indicated that they prefer to buy one-third of a quart at each purchase rather than the usual half pint of milk.

Marketing services for improving and maintaining dairy product quality were provided in Wisconsin, North Dakota, North Carolina, Indiana, Mississippi, Kansas, and Minnesota. In Indiana, the service activities with milk plants are carried on by Purdue University and, last year, were directed primarily to the development of uniform grading procedures in accordance with the standards established by State regulations for milk and cream. In previous years, the U. S. Department of Agriculture and Purdue were instrumental in the development of these standards.

During the period covered in this report, 219 milk-grading and 272 cream-grading procedures were checked and 296 plant-grading records were reviewed. Findings were discussed with plant managers and employees, individually and at area meetings. Thirty-four meetings were held on milk grading and 22 on cream grading. The quantity of milk rejected for purchase by cooperating dairy plants has decreased from 5,394,000 pounds in 1948, the last year prior to the initiation of this work, to 3,191,000 pounds in 1953-54.

The Minnesota State Mobile Bacteriological Laboratory continued to move about the State to aid manufacturers in establishing uniform milk- and cream-grading programs and in locating and correcting conditions causing quality deterioration. With respect to quality control, samples were drawn of the incoming raw milk and of the various dairy products being manufactured at several points in the processing line and submitted to the mobile laboratory for analysis. Using the results of these tests, laboratory specialists and plant personnel determined the source or sources of contamination by examining the water supply, containers, machinery through which the product flowed, and the handling methods used by producers and between the producer and the plant.

The improved quality of Minnesota dairy products brought about by this program and other efforts has made it possible for dairy plants to compete more effectively for out-of-State markets--an important consideration since 80 percent of the total volume of dairy products moves to other States as fluid milk, butter, cheese, and dry milk powder.

Poultry and Eggs

Packing, grading, and handling assistance and demonstrations were provided in Arkansas, Illinois, Maine, South Carolina, Louisiana, Kansas, Kentucky, North Carolina, Michigan, Virginia, and Oklahoma. In the egg quality improvement program in Oklahoma during this past year, major emphasis was placed on the production of "caged" eggs. As a result, the number of caged layers increased from practically zero to about 100,000 during 1953-54. Present plans of producers indicate that this growth trend will continue for some time. With the assistance of State agriculture specialists, producers sold caged eggs at a premium of 8 to 12 cents per dozen.

Maine egg producers cooperating in the State label program are receiving a substantial premium for their eggs on the Boston market. In addition to promoting the use of a State of Maine brand, this program involves (1) candling, packing, and merchandising demonstrations and assistance to producers, wholesalers, and retailers; (2) demonstrations to consumers in retail stores and at expositions and trade shows, with respect to the meaning of the different consumer grades under the State of Maine label; and (3) licensing of producers and dealers to use the State trademark.

A State label program was also initiated for cut-up poultry. Eviscerating plants observing State grade regulations and using continuous veterinary inspection were licensed to use the State trademark. Wholesalers and retailers were trained in the proper methods of buying, cutting, handling, packaging, displaying, pricing, and merchandising broilers and turkeys. One retailer reported that his sales of cut-up poultry increased from 3 to 12 cases per week after he instituted merchandising methods demonstrated at the training sessions. To publicize the quality standards of the trademark among consumers, a number of large retail outlets maintained special displays over a 30-day period. Further publicity was given the State of Maine brand at the Maine Broiler Day Festival, which was attended by 12,000 persons.

Market information programs were carried on in Illinois, Minnesota, Nebraska, Wisconsin, Maine, Texas, Kentucky, West Virginia, South Dakota, Iowa, Montana, Virginia, Louisiana, South Carolina, and North Carolina. To help growers plan their marketing programs in line with the likely supply situation, the Minnesota Department of Agriculture continued reporting estimated turkey hatchery poult production by light and heavy breeds and intentions of producers to keep breeder hens for turkey egg production.

In Maine, weekly releases were issued on the number of chicks hatched and imported into the State. In Kansas, monthly reports by crop reporting districts were issued covering prices of eggs by grades and chickens by classes with seasonal trends, and the proportions of eggs

and poultry marketed falling into each grade and class. The price differential between poultry products in the various grades and classes is substantial, and publicity of this fact has been a very important factor in obtaining the cooperation of growers in the quality improvement and grading program. In North and South Carolina, processors and other buyers were kept advised on the location and supply of poultry products, the preferences of consumers in various markets, and the receiving and distribution facilities available at consuming centers.

Fruits and Vegetables

Last year, 18 States were engaged in programs to improve and maintain the quality of fruits and vegetables. In California, work was continued in the development of more dependable methods of determining minimum maturity of fruits and vegetables; in 1953-54, principally oranges, apples, freestone peaches, grapes, Persian melons, and watermelons. Such methods are used by industry in picking operations and by enforcement agencies in grades and standards work. For instance, the Agricultural Code of California requires oranges to have at least 25 percent of characteristic color before picking. Tests were conducted to determine (1) whether a more rigid picking color standard would result in higher quality and (2) the relation of the sugar-acid ratio test to color. In addition, the adequacy of the descriptive terms promulgating color standards was appraised. The results of the tests, though still inconclusive, indicate that the soluble solids content of the fruit increases and the acidity decreases as the percentage of natural color at time of picking increases. Also the more highly colored fruit completes the coloring process more effectively during "sweating."

California potatoes sometimes arrive in consumers' hands badly feathered and discolored due to the fact that they were harvested in immature condition. To develop more dependable methods of determining maturity, specialists of the California Department of Agriculture tested potato samples harvested at various stages of maturity for soluble solids content, degree of feathering, and difference in resistance to pressure tests. Results indicate that feathering tests are the most reliable measures of differences in maturity.

Handling demonstrations held in Mississippi through the joint sponsorship of the State department of agriculture, the Farmers' Central Market Board and the Extension Service were attended by more than 3,000 persons. Interest among producers in familiarizing themselves with proper grading and packing techniques was particularly high in areas recently going into vegetable production. Growers in a new watermelon area received such favorable prices, partly as a result of the quality program, that they plan to double acreage next year. Good results were also obtained for tomatoes, sweet corn, spinach, okra, squash, lima beans, sweet potatoes, and mustard and turnip greens. It is estimated that Mississippi producers realized an average price premium of about 10 percent for all vegetable crops because of the quality program.

North Carolina early potato producers harvested potatoes in more mature condition and washed a larger proportion of the crop than usual this past year at the urging of State specialists. The volume of potatoes harvested at the proper stage of maturity and shipped washed totaled 800,000 bags. Potatoes of this quality and cleanness sold for an average price of 35 cents above the going market for potatoes marketed at the usual stage of maturity and unwashed.

In Indiana, the "Produce Supply Report" was continued covering location, anticipated supplies, and harvest dates of locally produced fruits and vegetables. This report was mailed weekly to about 700 persons and firms, including shippers, brokers, truckers, and other potential buyers. The purpose of the program is to expedite the movement of commodities into trade channels with minimum loss and spoilage and at maximum returns to producers. Promotional assistance was also provided in developing wider distribution of fruits and vegetables. A weekly report promoting products in plentiful supply was released to consumers through 35 newspapers and 97 radio stations, and 13 special television programs were devoted to informing consumers how to get the maximum return from their food dollars in terms of both quantity and quality.

Similar programs were carried on in North Carolina, Kentucky, Illinois, Oklahoma, and Michigan.

At the request of marketing order advisory boards, the California Department of Agriculture began this year to test the feasibility of using objective sampling methods to forecast more accurately the production of Bartlett pears and cling peaches. These tests appear promising and yield a considerable amount of valuable related data as a byproduct. For instance, the tests indicated the growth rate of fruit and provided advance information on the degree of injury from insects, disease, and weather, and early indications of sizes and grades at maturity. In Michigan, work has been conducted on the development of more dependable methods for forecasting sour cherry production. Yield per tree and likely production can be estimated with increased accuracy using as a basis the recent tree count, growers' reported percent of full crop, and an index of crop maturity based on daily maximum temperatures.

During 1953-54, technical assistance was provided in improving existing marketing and processing facilities and equipment and in designing and locating new facilities in West Virginia, Virginia, Tennessee, South Carolina, North Carolina, Mississippi, Maryland, Kentucky, Illinois, Indiana, and Kansas. In South Carolina, a study of watermelon marketing in Allendale county revealed the need for a concentration point for truck buyers, and a covered shed facility was established through the efforts of the Marketing Commission and local people. Southern Illinois cucumber and pepper producers were assisted in organizing a central packing and selling cooperative and in constructing and operating the required facilities. Cucumbers packed in

the central packinghouse brought about $1 and peppers $0.65 per bushel more than those packed on the farm in the usual manner.

Livestock

Promotional assistance in expanding beef sales was provided by the Kansas Department of Agriculture in cooperation with the Kansas Livestock Association with the advice and counsel of the National Livestock and Meat Board, American Meat Institute, and American National Cattlemen's Association. Information was made available to wholesalers, retailers, and consumers on methods of keeping, preparing, and serving meat and on how to buy meat effectively. Retailers and wholesalers were reached by personal contact; consumers through television, newspapers, radio, displays at fairs, meetings, and retail stores. Over 200,000 pieces of printed material were distributed.

Wisconsin assisted a Statewide marketing cooperative in developing livestock concentration points at which farmers may receive cash upon delivery. The State department of agriculture also assisted in organizing local transportation associations to move livestock from the farm to these concentration points or to a terminal market. With this assistance and other means, the cooperative has built its volume of livestock sold through concentration points and at terminal markets to 15 percent of the State total, making possible more efficient operations and more effective bargaining in the interest of producers.

The Iowa State Department of Agriculture initiated a quarterly market report on sow farrowings in lieu of a semiannual report to serve as an aid in forecasting shipments of hogs to market. Producers found the more frequent reporting valuable in making marketing decisions. The value of the report was soon recognized throughout the Middle West and a similar reporting schedule was established in 5 other important hog-producing States, namely, Indiana, Illinois, Wisconsin, Minnesota, and Kansas. The other States and Iowa exchange information through their Federal-State statisticians, thereby providing producers with a means of keeping in touch with regional developments.

Encouragement and assistance in improving methods and practices of marketing livestock were provided in West Virginia, South Carolina, North Carolina, Virginia, Kentucky, Maryland, and Indiana. Virginia, in cooperation with the Extension Service, sponsored 2 special feeder cattle auction sales at which the animals were sold according to size and grade. The graded cattle returned $7 to $10 per head more than cattle marketed at regular auction sales.

In West Virginia, 37 demonstration sales were held during the year at 12 of the State's auction markets. All cattle were graded, classified as to size and color, dehorned, castrated, and treated for blackleg and shipping fever. Feeder calves handled in this manner brought $20 to $30 more per head than those not properly processed for sale.

To encourage sheepmen to improve their breeding stock, 4 demonstrational breeding ewe and ram sales were held in West Virginia. Specialists supplemented these special sales demonstrations with grading demonstrations at the regular public livestock markets and on the farm. During calendar year 1953, 120,000 sheep and lambs, 54,000 veal and stocker calves, and 17,000 hogs were sold on a graded basis—exceeding the total number sold on this basis during the previous year by more than 22,000 animals.

Grain

Because of inadequate drying, storage, and processing facilities, much locally produced grain in the Southeastern States suffers abnormal deterioration and, as a consequence, is sold at a substantial discount. Technical assistance in establishing and operating improved and new processing, drying, and storage facilities has been quite fruitful in North Carolina over the past several years, resulting in better grower prices and a measurable saving in the cost of marketing. For instance, it is estimated that the improved quality of grain and the better bargaining position of the producer brought about by the availability of improved marketing facilities increased grower prices last year by $0.05 to $0.20 per bushel, depending on the area. Increased efficiency resulted in savings of $0.05 per bushel for corn and small grain, and $0.10 per bushel on soybeans.

Similar work is gaining momentum in Virginia, South Carolina, and Kentucky. In South Carolina, growers' groups were assisted in appraising their facility needs. For instance, one group abandoned plans to construct a $100,000 grain storage elevator after considering data, presented by marketing specialists, which indicated that the present and likely future grain supplies in the area did not justify the venture. In contrast, an existing grain cooperative elsewhere is planning to double present plant capacity as a result of a similar survey on feasibility. The cooperative will also be assisted in planning a plant layout for the new facilities.

In April, 9 grower meetings, with an aggregate attendance of 500 persons, were held in South Carolina to stress the importance of proper grain handling and storing on the farm and to indicate the proper techniques and facilities to be used to prevent damage from insects, rodents, and moisture. A publication entitled "Save More in '54; Grain Conservation Program" was presented at the meetings and otherwise circularized about the State. It is believed that the farm facilities installed last year, stemming in part from these activities, resulted in significantly higher returns to the farmer for his grain crop in cash and as feed because of less loss and better quality.

Tobacco

Marketing services designed to familiarize farmers with methods of sorting and grading, of tying hands and otherwise preparing tobacco for market, and of displaying the product on the sales floor were conducted in North Carolina, Wisconsin, and West Virginia. This past year, 213 growers participated in the tobacco sample-grading program held at the warehouse of the Wisconsin Cooperative Tobacco Growers' Association. Participating growers submitted 3 to 5 bales, representative of their crop, for sampling and grading in their presence by Federal inspectors. This program had the objectives of increasing the volume of tobacco sold under Federal grades and showing growers the sorting methods that would maximize the proportion of their crop falling within the higher grades. In West Virginia, the grading and handling demonstration and assistance program was primarily responsible for West Virginia producers receiving a price premium of $3.40 per 100 pounds above the average for the burley-tobacco belt. As a part of this program, a State specialist was available at the market to demonstrate methods of displaying tobacco and, on sales days, to advise producers of the price their crop should bring and the feasibility of regrading for later sale if the price offered was considered too low.

Cotton

Assistance was provided in the establishment and operation of improved and new ginning facilities in the interest of maintaining fiber quality in North Carolina, Louisiana, and Virginia. North Carolina marketing specialists made 525 visits to cotton gins, appeared on 15 club and farm organization programs, participated in 50 ginner-group and 25 cotton-production meetings, held 75 conferences with Extension Service personnel and 25 with cotton mill technicians, and attended 6 textile meetings. Over half of a million dollars' worth of new ginning machinery and equipment was installed with the assistance of members of the staff. Gin-damaged, or "rough prep," cotton has been reduced from 15 to 0.01 percent of the crop in the 6 years this program has been in operation.

The North Carolina program also includes encouraging the sale of cotton by producers and ginners on the basis of laboratory tests showing fiber length, strength, fineness, uniformity, maturity, and other characteristics. The volume sold on this basis has increased steadily in recent years. Specialists collect cotton samples weekly from a representative number of gins scattered about the State, conduct the necessary tests, and release results bimonthly to cotton mills and merchants. The influence of test results on prices paid is being publicized among growers and ginners to provide an incentive to produce desirable varieties of cotton and to maintain effective ginning practices.

SUMMARIES OF MARKETING SERVICE WORK BY STATES AND BY PROJECTS

ALABAMA

Technical assistance in improving and maintaining the quality of seed--(RM:c-3550-35)

For several years the Alabama Department of Agriculture has carried on marketing service activities pertaining to seed, centering primarily around technical assistance in quality improvement and the development of more efficient processing operations. During 1953-54, field men made 527 visits to processing plants to advise on cleaning, drying, and handling techniques and to assist in installing new machinery and in preparing plant layouts for new and expanded facilities. In addition, 177 samples of various kinds of seed were picked up and tested in the laboratory. The 79 cottonseed samples obtained were tested for adequacy of poison treatment and effectiveness of delinting. Thirty samples contained sufficient poison, 19 a fair amount, 11 hardly any, and 16 none. Three samples did not lend themselves to the poison-content-testing methods used. It was noted that inexperience or negligence on the part of the operators was responsible for lack of effective delinting of the cottonseed. Seventeen cloverseed and grass seed samples were tested for cleanness and 70 peanut samples were tested for the effectiveness of poison treating and shelling operations.

Fifty-five county agents were visited to acquaint them with the department's seed improvement program and to obtain their cooperation in obtaining better relationships between farmers and processors and in planning the seed marketing service program.

ALASKA

Improving handling methods, expanding outlets, and furnishing market information for potatoes, vegetables, dairy products, and eggs--(RM:c-2550-51)

The Alaskan carrot crop produced during the 1953 season was $2\frac{1}{2}$ times larger than normal. To help dispose of this surplus, producers were assisted in obtaining military contracts for the purchase of their carrots extending through May of 1954--3 months longer than the period provided in earlier contracts. The department further assisted and encouraged producers to obtain permanent expansion of their carrot market through the adoption of prepackaging. Bulk and prepackaged carrots were displayed side by side in a warm room to demonstrate the extent to which keeping quality of carrots is improved by prepackaging. Data were assembled and disseminated to producers and wholesalers on types of bags

and packing and closure equipment best suited to prepacking. This year, with growers prepared to prepackage, it is believed that the carrot market has increased 50 percent and military contracts specify prepackaged rather than bulk-bunched carrots.

Similar assistance was provided in the marketing of potatoes. The crop produced during the 1953 season was almost twice as large as in any previous year. The Anchorage and Fairbanks Chambers of Commerce cooperated with the State department of agriculture in helping dispose of the surplus by actively promoting Alaska potatoes. Also, merchants maintained special displays throughout the winter. About 90 percent of the potatoes sold were prepackaged in 5- to 15-pound bags with pliofilm window front. Department specialists encouraged the installation of refrigeration to prolong the marketing period. As a result of 7 such installations, potatoes were marketed through July and $30,000 of additional sales were made. To demonstrate the effectiveness of sprout inhibitors in retarding quality decline, potatoes treated with such inhibitors were displayed with untreated potatoes.

Service activities concerning other commodities included demonstrations and discussions regarding packing, storing, and marketing vegetables other than carrots and potatoes; distribution of an egg quality circular among producers; advising small dairies on milk packaging and promotion; and the distribution among retailers and growers of a monthly market news bulletin containing current prices and the supply and demand outlook on a local and national basis.

ARKANSAS

Quality program for eggs--(RM:c-3550-10)

The Arkansas egg-quality program was concerned primarily with informing producers and dealers of the need for giving more attention to grading procedures and advising on proper grading methods. Special efforts in this direction were made in 6 areas where growers showed interest in the program. Partly as a result of the program, 125,000 additional egg-producing-type chicks were placed in the State, the number of buyers packing according to U. S. grades increased, and 250 cases of graded eggs per week were marketed in Little Rock compared to none the previous year. At present, it is estimated that the eggs presently being sold in all State markets on a graded basis bring the Arkansas poultry industry an additional $3,000 per week in price premiums.

CALIFORNIA

Expanding markets for lima beans and honey--(RM:c-2550-10)

Since 1948, when this project was initiated, the California Department of Agriculture has made surveys of the marketing of 10 products covered by State marketing order programs. The purpose of these surveys is to bring together information which will help producers, handlers, and processors to develop more effective and efficient marketing and merchandising programs and to guide the advisory boards in determining how the promotional funds budgeted under the marketing order programs should be spent to achieve maximum market expansion for the products concerned.

During the past year, a study of honey marketing was made and one for lima beans largely completed. In the honey survey, retailers and industrial users in California and 10 major consuming centers east of the Rocky Mountains were interviewed. The survey report entitled "Expanding The Consumption of California Honey" made the following recommendations for increasing honey sales: (1) Encourage retailers to carry an adequate stock of the various kinds, sizes, flavors, and colors of honey and to present better and more prominent displays, including feature displays, during such special periods as National Honey Week; (2) develop better packages, or other means, to prevent the appearance of granulated honey and sticky containers in retail stores; (3) improve the labels on opaque containers to more adequately inform possible buyers regarding the color of the contents; (4) expand publicity and advertising to levels comparable with such programs for other sweeteners; (5) provide bakers with technical information on the use of honey in bread making and assure them of regular deliveries of honey of uniform color, texture, and taste; (6) actively promote the use of honey among other industrial users; and (7) develop more reliable consumer preference information for the guidance of producers, processors, and distributors.

New basic information--fruits, tree nuts and bush berries--(RM:c-4550-10)

Information was assembled and reported for the sixth consecutive year on the commercial acreage, production, utilization, and value of blackberries, boysenberries, and youngberries in the State. Data covering the bearing and nonbearing acreage of tree fruits, tree nuts, and vines by varieties and age groups on a county basis were summarized and published for use by growers, shippers, processors, and marketing order advisory boards in planning and operating marketing programs. Also these data are used by the Federal-State Crop and Livestock Reporting Service in developing seasonal forecasts for these crops.

More dependable early season forecasts of production are needed by the Bartlett Pear and Cling Peach Advisory Boards for use in administering the marketing orders for these products. Accordingly, State specialists

tested the feasibility of using objective sampling methods to obtain more accurate forecasts. In objective sampling methods, fruit samples are taken from selected sample trees and analyzed as to size and maturity at specified stages of growth. The results of the analysis plus the available data on tree number or acreage form the basis of forecasting. These tests appear promising and yield a considerable amount of valuable related data. For instance, the information gathered in the course of the tests indicated the growth rate of the fruit, provided advance information on the degree of injury from insects, disease, and weather and early indications of sizes and grades at maturity.

Improving quality and containers--fruits and vegetables--(RM:c-3550-6)

During the past year, the State continued a technical assistance program directed toward improving and maintaining the quality of fresh fruits and vegetables. The major fields of activity were the development of measures of maturity and other conditions indicating suitability for shipping and the encouragement of better handling and packing practices. The maturity and other standards are for the use of industry in harvesting and packing operations and by enforcement agencies in standards work.

The minimum standards of quality in the Agricultural Code of California applying to low temperature damage for Navel oranges specify that freezing is serious if it causes "drying or desiccation in 20 percent or more of the exposed pulp as shown on a transverse cut through the center." Some industry members contend that this measure is inadequate to establish the extent of frost damage because desiccation appears in other portions of the fruit as well as the center. As a result, tests were conducted to determine the extent of damage in the several portions of the fruit. Early indications are that frost damage does occur in portions of the fruit other than the center and that a more thorough check of such damage prior to shipping would insure the marketing of better quality fruit.

Commodities on which tests were made of various maturity measures were apples, oranges, honeydew melons, Persian melons, watermelons, wine grapes, seedless grapes, Freestone peaches, and potatoes. For honeydew melons, the present legal method for determining soluble solids content of the juice in the edible portion of the melon calls for running the entire edible portion through a food chopper and testing the extracted juice with a Balling or Brix hydrometer. Endeavoring to provide the industry with a simpler, more rapid method requiring less equipment, State specialists made maturity tests using 3 plugs about the center of the melon, rather than choppings of the entire edible portion, and the faster sugar-scale hand refractometer. A check test was made of the balance of the melon with the method now in use. The results of the first year's test indicated that the hand refractometer using plugs yields dependable results, providing that the 3 plugs used are removed from that portion of the melon in which the soluble solids content are

the highest. The feasibility of replacing the hydrometer with the sugar-scale refractometer to measure maturity for wine grapes was also tested.

California potatoes sometimes arrive in consumers' hands badly feathered and discolored due to the fact that they were harvested in immature condition. To develop more dependable methods of determining maturity, State specialists tested potato samples harvested at various stages of maturity for soluble solids content, degree of feathering, and difference in resistance to pressure tests. Results indicate that the feathering test is the most reliable measure of differences in maturity. There is a consistent and material decrease in feathering as potatoes mature.

The California Agricultural Code states that cantaloups shall not be poorly netted. Poor netting is generally associated by most growers and shippers with low soluble solids content. However, in view of the inconclusiveness of the data indicating this connection, 407 tests were made during the 1953 and 1954 season to determine the relationship between the type and amount of netting and the flavor and soluble solids content. Though the 1954 tests have not been tabulated, an analysis of the 1953 data indicated that (1) there is no consistent relationship of flavor to netting, (2) cantaloups completely covered with heavy netting have a high soluble solids content, (3) not all poorly netted melons have a low soluble solids content, and (4) the better flavor melons have a high soluble solids content.

Until the 1954 season, most California carrots were shipped in bunches with tops attached. As a result of consumer demand, however, the majority of the 1954 crop was packed without tops in 1-pound consumer cellophane bags. This shift was so rapid that it was impossible to determine whether the quality standards and size, weight, and count specifications contained in the Agricultural Code for bunch carrots adequately regulated the shipment of carrots in consumer bags. To provide a basis for evaluating whether changes in the standards are required and the nature of the changes, about 35 packers shipping consumer packages were visited several times during the season to record the quality and grade factors being observed. On each visit 10 to 20 packages were selected and observations made of the size and color and the quality defects of each carrot. The observations have not yet been tabulated or analyzed, but early indications from the field workers point to a need for minimum standards for carrots in consumer-type packs.

Developing methods of certifying nursery stock--(RM:c-3550-27)

To improve the acceptance and marketability of nursery stock, the development of techniques and procedures for certifying that such stocks are disease free was continued in California. Last year, particular emphasis was placed on budwood, scion, cutting, and rootstock source materials. Commodities covered in this work were cherries, peaches,

nectarines, almonds, plums, prunes, apricots, and grapes. The greatest progress to date in methodology development has been with cherries. Nurserymen able to certify to virus-free stock are obtaining premium prices.

The project included regular dissemination of test results and assistance to producers in applying these results commercially as well as the development of certification techniques. Meetings were held with cooperating nurserymen and breeders both in the conference room and in the field. Topics discussed were the nature of virus diseases, their recognition, means of dissemination, methods of suppression, and occurrence in California. In this connection, nursery and breeding practices which foster the multiplication and distribution of these diseases were outlined and methods of establishing and maintaining virus-free mother blocks of both root and top stock sources were presented. Also, on the test plots, maintained jointly by the State department of agriculture and the University of California Experiment Station, the propagators and breeders were shown the various stone fruit varieties which had been inoculated with viruses similar to those encountered by State specialists during routine budwood source inspections in cooperating nurseries.

COLORADO

Improving marketing practices for potatoes--(RM:c-2550-46)

The State department of agriculture issued a publication reporting the results of a 9-State survey of the opinions of wholesalers and retailers, with respect to the marketing practices which need improvement to increase the acceptability of Red McClure potatoes shipped from the San Luis Valley. In the course of the study over 2,000 wholesalers and retailers were interviewed. In general the survey found that wholesalers and retailers no longer regard Colorado McClures as having premium quality. Shippers from competing areas (particularly the Red River Valley, the Dakotas, and Nebraska) are reportedly marketing better quality and more uniformly sized potatoes than shippers of McClures. Specific recommendations were made by the trade on the following subjects: (1) Size groups in which potatoes should be shipped; (2) types and sizes of package most likely to fit consumer needs; (3) condition required for the various markets such as unwashed, washed, and waxed; (4) stage of maturity at which potatoes should be harvested; and (5) the adjustments that should be made in grading and loading at shipping point to best maintain quality.

HAWAII

Encouraging the use of grades, maintaining quality, and expanding outlets for native fruits and vegetables--(RM:c-2550-35)

Twenty-two demonstrations, with an aggregate attendance of about 250 persons, were held on grading and packing tomatoes, pineapples, cucumbers, peppers, snap beans, and other products; assistance in improving handling methods was provided to 3 packing sheds, 11 growers, and 1 wholesaler. Comparisons were made of the length of time tomatoes picked at various stages of maturity would retain their quality when held at room temperature and when refrigerated. Mature green tomatoes, whether refrigerated or not, began to shrivel at about the time they acquired full red color and were unattractive the entire period. Tomatoes picked when they exhibited from a tinge to full red color lasted 2 to 4 weeks in good condition without refrigeration. Generally, tomatoes under refrigeration last an additional week regardless of the stage of their maturity when selected.

A survey of retail stores indicated that 50 percent of the stores in middle-income areas would like to see consumer grades established for consumer-size packages of vegetables, but that only 29 percent of the stores in low-income areas favor the use of such grades. The Honolulu Wholesale Fruit and Vegetable Association went on record as favoring the establishment of consumer grades and mandatory labeling after a meeting at which marketing specialists explained their use.

Several surveys were made to bring together data helpful in market expansion activities. Controlled, retail store experiments indicated that consumers would pay a substantial premium for and use larger quantities of high-quality, young snap beans and that they prefer tomatoes showing three-fourths to full red (not full deep red) color. As a result of having better graded and higher quality produce to offer, 1 test made at a supermarket increased sales from 800 to 1,500 pounds per week.

ILLINOIS

Improving methods of handling and expanding market outlets for fruits, vegetables, poultry and eggs--(RM:c-2550-16)

According to reports from inspectors, the principal reason why producers, dealers, and retailers have often been in violation of the 1951 Illinois egg law is their lack of familiarity with the proper candling, grading, packing, and storage methods. To assist these groups in their efforts to comply with the provisions of the law, 28 grading and candling demonstrations and laboratory sessions in which the audience participated were held by marketing specialists in cooperation with local sponsors. Several radio and television appearances were also

made in this connection. High school and college students became quite interested in learning more about improving egg marketing methods as news of the demonstrations and laboratory sessions spread, and several meetings with these age groups are planned for next year. Cooperating in this work were the Southern Illinois University, the Illinois Department of Vocational Education, county extension agents, and wholesale and retail dealers.

Special activities to promote increased consumption of eggs and poultry included the January Egg Month Campaign, the Illinois Chicken of Tomorrow Contest, the State-Fair Egg Demonstration, and the Effingham Egg Breakfast. The latter named activity took place during the Effingham Egg Centennial, and was put on by the local poultry and egg association with the help of State and extension specialists. Its major purpose was to demonstrate to local consumers the high quality of the eggs being produced in nearby areas. Breakfast, including 2 large grade A eggs cooked-to-order, was served 3,500 persons under a large tent set up in the street. Local dealers furnished at special rates the eggs and other food served.

Illinois canning-crop growers are being encouraged to market their canning corn, peas, and asparagus on the basis of Federal grades, since the use of grades in nearby States has resulted in substantially increased returns to producers. For instance, it is reported that the canning corn sold on the basis of grades brings an average premium of $6.50 per ton. Grades not only assure that growers will be adequately compensated for delivering good quality products, but provide incentive for improving quality. As a result some canning asparagus was purchased on a graded basis for the first time this past year. Cooperation in this work was provided largely by the Federal-State Inspection Service, though contacts with the Extension Service and processors indicate that these groups stand ready to help wherever possible.

Peach producers were assisted in developing better packing and handling methods. Tests were made comparing bruising and other damage and space utilization, using the conventional system of loading bushel baskets of peaches and the alternately inverted system. Test loads were inspected when loaded and upon arrival at destination. The trucks used were identical in type, loaded and refrigerated (or iced) on the same day, and moved over the same roads. Damage in alternately inverted baskets ranged from 6 to 28 percent, with an average of 17 percent; damage in upright baskets ranged from 8 to 54 percent; averaging 25 percent. Serious bruising occurred with 15 percent of the peaches in upright baskets and 6 percent of those in inverted baskets. Better utilization of space was achieved through the alternately inverted loading.

Peach producers were also encouraged and assisted in a program of packing and marketing their fruit in tree-ripened form. Tree-ripened

peaches were promoted among consumers through on-the-spot demonstrations as to appearance and taste at the State Fair and elsewhere, and among retailers. Tape recordings were taken of consumer and retailer interviews to be used at future grower and shipper meetings.

The State continued the special fruit and vegetable information program for buyers. This service is becoming increasingly valuable with the decentralization of packing and processing and the trend towards direct selling. About 6,500 truckers and other potential buyers in a 24-State area are provided with up-to-date information biweekly on the location, time of harvest, quality, and quantity available of the various fruits and vegetables.

Initially, this program was designed principally to assist producers to move seasonal surpluses and products damaged by drought, hail, or other factors. In recent years, however, the service has been broadened to cover all fruits and vegetables, because of buyers' requests. Buyers found the information so helpful in purchasing surplus and damaged produce that they requested similar data throughout the season. An annual publication entitled "Your Guide to Illinois Fruits" was also issued just prior to the harvest season containing a map showing the production areas, and the names and addresses of orchardists with estimates of their production by varieties.

The results of the program are especially noticeable in the disposition of off-grade fruit and the effect of this movement on the market for the higher grades through the periodic reports. Large quantities of off-grade peaches and apples now move readily to out-of-State markets. In the past such fruit entered Illinois markets causing gluts and destroying the market for high-quality produce in the State.

Experimental market news--poultry and eggs, and livestock--(RM:c-2550-50)

Prior to the initiation of the poultry and egg experimental market news service in 1952, producers and dealers at country points had only the Chicago and St. Louis terminal market quotations on which to base their marketing decisions. This service, under which local market prices by grades and supply and demand conditions were reported biweekly, was terminated on an experimental basis in 1954 and is being continued on a permanent basis this year. This report also contains summaries of the Chicago and St. Louis markets, future prices on the Chicago Mercantile Exchange, and conditions in competing producing areas.

Lack of information on the price and volume of livestock moving through the 78 local Illinois auctions has been primarily responsible for the wide differentials in prices of livestock in various areas and confusion among producers as to whether they should sell through nearby auctions or consign to terminal markets. Spot checks by marketing specialists showed auctions frequently offering better returns than

terminals, considering the differences in shrinkage, transportation costs, and other factors involved. As a result an experimental market news program was initiated in the fall of 1954. The news report is issued weekly in mimeographed form and over the radio. Auction prices and volume are reported for the northern, central, and southern portions of the State. Also conditions on the Chicago and Indianapolis markets are summarized from reports issued by other agencies.

Improving fruit and vegetable marketing methods--(RM:c-3550-12)

In the southern part of the State producers of cucumbers and peppers for the fresh market were assisted in organizing and operating a central grading, packing, and selling cooperative to improve the quality and uniformity of their pack. Growers requested this assistance after visiting terminal markets where marketing specialists pointed out that the competition from the superior quality produce on display from other areas was the principal cause of shrinking outlets for southern Illinois vegetables. The association, named the "Little Egypt Vegetable Growers' Cooperative," was assisted in securing a rent-free packing shed, some good used equipment, and new equipment at cost. Demonstrations in grading according to U. S. grades and in proper handling, packing, and loading were provided throughout the season by a representative of the State department of agriculture. Cucumbers packed in the central packinghouse brought $1 and peppers $0.65 more per bushel than those packed on the farm in the usual manner. Last year the cooperative handled close to 40 percent of the cucumbers produced in the area served. Nonmembers of the cooperative also benefited from its operations by having available additional marketing information and by observing and adopting the packing methods being employed.

New basic data--fruits and vegetables, livestock, and farm timber products--(RM:c-4550-37)

Timber products provide a valuable source of income to many farmers. However, producers frequently have not been able to realize maximum returns from their woodlots because of the lack of information regarding the variety of products that may be made from the timber they sell and the prices that these products are bringing. To correct this deficiency a semiannual report was initiated in 1952-53 and continued this past year, containing average prices and price ranges of various timber products for each of 4 zones into which the State is divided for reporting purposes. The products covered are commercial veneer, container veneer, cooperage, sawlogs, tie cuts, pilings, mine materials, pulpwood, and fence posts.

In 1953, an apple- and peach-tree count was made by age, variety, condition, and yield on a county basis. This past year an annual survey was initiated to bring up-to-date the 1953 data on bearing and nonbearing trees. The 1953 count showed that apple and peach trees

numbered less than one-fifth the tree population of 1923. The 1954 survey showed no change in tree numbers from a year earlier.

Data assembled, analyzed, and disseminated on livestock and livestock products included quarterly information on sow farrowings, on beef- and dairy-type calf births, on types and quantity of hogs, on cattle marketed the previous quarter and probable marketings the coming quarter, and annual pig production by counties with trends in rate of production.

To assist producers, processors, and hatcherymen accomplish more orderly marketing of the rapidly increasing numbers of broilers in the State, a weekly broiler placement report was initiated during the past year.

INDIANA

Providing special market information and improving marketing practices for fruits and vegetables, grain, and livestock--(RM:c-2550-11)

As a result of continued demand, a monthly newssheet entitled "Economic and Marketing Information for Indiana Farmers," containing current information on the quantity and location of products available for sale and current information on demand and price, was published by Purdue University and distributed to about 18,000 persons.

The "Produce Supply Report" was continued covering location, anticipated supplies, and harvest dates of locally produced fruits and vegetables, including apples, peaches, carrots, cabbage, green beans, parsnips, turnips, onions, cucumbers, greenhouse lettuce, tomatoes, cantaloups, and watermelons. This report was mailed weekly to about 700 persons and firms, including shippers, brokers, truckers, and other potential buyers. The purpose of the program is to expedite the movement of the commodities into trade channels with minimum loss and spoilage and at maximum returns to producers. Also a weekly report promoting products in plentiful supply was released to consumers through 35 newspapers and 97 radio stations. In this connection, 13 special television programs were devoted to informing consumers how to get the maximum return from their food dollars in terms of both quantity and quality.

Demonstrations of methods of grading and packing tree-ripened peaches encouraged a number of producers to allow their peaches to become firm-ripe prior to picking. Although some peaches did not fall into the U. S. 1 grade because abnormally rapid maturing caused over-ripeness, they still brought top market prices due to exceedingly high quality. Also, the increased size of the fruit resulted in a 17 percent increase in yield.

During the year, the grain marketing service program dealt principally with informing farmers of the costs involved in storing grain on the farm. Several meetings were held and a number of field visits were made to various kinds of farm storages in the State. Among the subjects covered were the seasonal price behavior during recent storage seasons; how to minimize costs of construction, installing drying equipment, and moving grain into and out of storage; and how to calculate storage costs for corn, wheat, and soybeans. Also, several tours, participated in by about 300 persons, were made to the Chicago Board of Trade and grain processors to acquaint producers with grain marketing problems and methods. A radio program was conducted in September in which farmers were provided with price and outlook data helpful in deciding whether to store, sell, or buy corn and soybeans.

In cooperation with the Extension Service, 50 schools were held at which farmers were shown how to grade live hogs, how to select feeder cattle on the basis of grades, the relationship of live to carcass grades, the importance of feeding cattle to the proper finish, and the selling of cattle according to grade to receive maximum returns. The seasonal price behavior and the price outlook of the different grades of livestock were also discussed and groups of farmers visited several markets to obtain a better perspective of the pricing mechanism. The breeding, feeding, and methods of marketing livestock were discussed at a 2-day meeting with commission men and others from the principal markets in the Central States.

Demonstrating uniform grading procedures and improving quality of dairy products--(RM:c-2550-36)

The service activities with milk plants were primarily directed towards the development of uniform grading procedures in accordance with the standards established by State regulations for milk and cream unfit for human consumption. The U. S. Department of Agriculture and Purdue University, in previous years, were instrumental in the development of these standards. During the year, 219 milk-grading and 272 cream-grading procedures were checked--including flavor grading, sediment tests, and bacteria count--and 296 plant-grading records were reviewed. Findings were discussed with plant managers and employees, individually and at area meetings. Thirty-four meetings were held on milk grading and 22 on cream grading. The quantity of milk rejected for purchase by cooperating dairy plants has decreased from 5,394,000 pounds in 1948, the last year prior to the initiation of this work, to 3,191,000 pounds in 1953-54. Marketing specialists assisted the Indiana State Board of Health in conducting cream-grading schools for cream station operators and route drivers in the interest of improving the quality of farm-separated cream for butter making.

Technical assistance to vegetable canners in improving quality control--(RM:c-2550-55)

The maintenance of proper quality-control procedures is often impossible for small independent vegetable processors. The short operating period, generally 6 to 10 weeks, makes it economically unfeasible to maintain a private laboratory with a full-time staff, especially with the lack of affiliated plants elsewhere with different seasons to help bear the cost. Processors desiring continuous inspection and quality control were offered a service under which each plant would employ a technician-trainee to work under the general supervision of a qualified sanitarian. Twelve processors requested this service and employed a trainee. Prior to assuming his technical responsibilities each trainee attended the Annual Sanitation and Quality Control Short Course and Mold Counters School at Purdue. During the season, warehouse certificates (indicating mold count, USDA grades, etc.) were issued on about 900,000 cases of canned tomatoes, tomato juice, tomato puree, tomato catsup, and canned corn. Each week a summary of the percent compliance with the Indiana Canners' Sanitary Code was submitted to each plant with suggestions for accomplishing closer compliance, if necessary.

To provide additional information for carrying on the quality control program an evaluation was made of a borax compound for use as a larvacide in cannery-waste lagoons, in cooperation with the Entomology Department at Purdue. And a study was made of mold in canned tomatoes to determine how much the mold count of the packing medium decreased by dilution with serum from the whole tomatoes.

Processors were provided informational material relative to control of cannery insects and to methods of extending the life of paint--traditionally a serious problem due to high humidity. Through demonstrations cannery workers were shown how to peel tomatoes efficiently. Also movie films and leaflets on proper peeling methods were supplied supervisors for referential and instructional purposes during the season.

Improving methods of handling and grading eggs--(RM:c-2550-56)

Eggs sold under any terms implying freshness or quality must be graded according to the standards set forth in the Indiana Egg Act. Wholesalers and retailers frequently in violation of the act because of lack of familiarity with proper candling and grading methods were provided with demonstrations and assistance in applying such methods. As a result, the purposes behind the act are now well understood; handlers who first looked upon it as a "strait jacket" on their operations now regard the law as an aid in merchandising. A number of consumer meetings were held to acquaint housewives with the meaning of the various egg grades and how to buy according to grade. Marketing specialists also made radio and television appearances and published several articles in this connection.

It is believed that this service program is primarily responsible for the sharp decrease in the number of poor quality eggs being offered to consumers. In some areas refrigeration is now being used in 85 percent of the retail display counters.

New market information - quarterly sow farrowings--(RM:c-4550-6)

Through this project, Indiana joined with 5 other nearby hog-producing States in issuing pig crop reports quarterly rather than semi-annually. As indicated in the statement on Iowa, that State initiated the quarterly system. The more frequent reporting was necessary because hogs are being finished more rapidly than formerly, sows are farrowing earlier, and there is increased specialization in hog production.

IOWA

New market information and data for livestock, eggs, milk, and hay--(RM:c-4550-32)

The Iowa State Department of Agriculture initiated a quarterly market report on sow farrowings in lieu of a semiannual report to serve as an aid in forecasting shipments of hogs to market. Producers found the more frequent reporting valuable in making marketing decisions. The value of the report was soon recognized throughout the Middle West and a similar reporting schedule was established in 5 other important hog-producing States, namely, Indiana, Illinois, Wisconsin, Minnesota, and Kansas. The other States and Iowa exchange information through their Federal-State statisticians, thereby providing producers with a means of keeping in touch with regional developments. For livestock, the department also reported January 1 hog and cattle inventory patterns, assembled data on the seasonal pattern of calf births, age of hogs marketed, pig litter sizes by months, and made monthly forecasts of cattle and hog marketings.

Data were assembled and disseminated to producers and buyers on the volume of production by areas of the various varieties of soybeans. Information on egg production by counties for the years 1929, 1934, and 1939-1952 was gathered and analyzed, and will be disseminated during the year. A bulletin was recently published on dairy cattle numbers, milk production, and dairy income on a geographic basis. In the future, data on the geographic distribution of the volume of milk produced will be published annually together with the number of cows milked and production per cow. Information is also being assembled on the type and amount of feed consumed by dairy cattle and on prices and utilization of dairy products, to serve as a basis for determining the need for improved facilities and for planning additional dairy marketing studies. County data on current and historical hay production were assembled and disseminated. Particular note was made of the surplus areas for possible future use in locating supplies for importing or drought areas.

KANSAS

Improving quality and expanding outlets for dairy products--(RM:c-2550-18)

Methods of improving and maintaining the quality of dairy products were promoted in Kansas, and encouragement was given to the use of and adherence to officially promulgated grades and standards. Each dairy plant was periodically inspected, and a detailed report presented to the management with recommendations for eliminating unsanitary conditions and maintaining product quality throughout the plant. In the course of inspections, samples were analyzed of incoming raw milk and cream, and of processed products at various points in the processing line. Samples of any material added, such as salt and wash water, were drawn and shipped to the laboratory for examination as to sanitation or other quality lowering characteristics. Finished products were also analyzed as to purity and quality. Demonstrations were held for plant personnel in grading milk and cream coming into the plant for acidity, and for sediment and bacteria content so that they might be better equipped to judge the acceptability of the raw material.

Most plant managers are now very conscious of the need for quality improvement and there is a good possibility that the grading program will spread throughout the State. Cooperation in this work was provided by the U. S. Food and Drug Administration, the U. S. Department of Agriculture, the Kansas Butter Institute, and the Kansas Cooperative Dairy Products Association.

Improving marketing methods and expanding outlets for eggs, fruits and vegetables, wheat, meat and dairy products--(RM:c-2550-19)

For several years, the Kansas Department of Agriculture has conducted a voluntary, egg-grading and -quality program to encourage producers, dealers, and retailers to adopt official State grades as a basis for trading operations. This past year 25,000 dozen eggs per week were marketed under State grades at a premium of 6 cents per dozen over ungraded eggs. A year earlier only 12,000 dozen eggs weekly were sold on a graded basis and in 1952 almost all Kansas eggs were bought on a current receipt basis.

Because the quotations made individually to producers and county buyers fluctuated rather widely from day to day and were quite variable between the several buying stations, an experimental market news service covering these stations was initiated this past year. Twelve buying stations are contacted early in the day by phone for prices being paid by grade, and the information released to the newspapers and radio the same day. Price differentials between the various stations are now nominal and daily price fluctuations less severe. The spread between prices in current receipt markets and markets in which eggs are bought on grade has caught the attention of producers and stimulated interest in the voluntary grading program.

The Kansas quality program for fruits and vegetables was concerned primarily with informing producers and packers of the need for giving more attention to proper grading procedures. The use of shipping point inspection was encouraged; demonstrations and assistance were provided, upon request, to producers and wholesalers in improving handling methods and equipment; and retailers were shown how to handle cantaloups and display them effectively with the cooperation of the United Merchandising Institute. This year, as a result of better grading and quality maintenance, 50 percent more cantaloups were marketed than during 1953 at a premium of 1 to 1½ cents per pound or an additional income of more than $1,000,000.

At the request of the Wichita City Manager, a study was made to determine how the services of the municipal farmers' produce market might be improved, expanded, and placed on a profitable basis. The adoption of the study's recommendations have resulted in increased use of the facilities in the market, less waste and spoilage in handling fruits and vegetables, and enough additional income and operational efficiencies to yield a reasonable profit.

The grain quality program dealt mostly with informing producers of the extent to which Kansas wheat is discounted in price because of the poor milling quality of wheat from certain areas and the fact that there is little use of grade designation in pricing. Extension marketing specialists are encouraging growers to produce varieties which have desirable milling and baking properties. State department of agriculture specialists are encouraging the establishment of trading practices in which quality differences receive appropriate consideration. It is believed that the adoption of such practices will provide growers with more incentive to produce desirable varieties and dealers with a better basis for price negotiations with millers. Cooperation in this work is being provided by the Kansas Wheat Improvement Association, Kansas State College, milling companies, and other interested groups.

Promotional assistance in expanding beef sales was provided by the Kansas Department of Agriculture in cooperation with the Kansas Livestock Association and with the advice and counsel of the National Livestock and Meat Board, American Meat Institute, and American National Cattlemen's Association. Information was provided wholesalers, retailers, and consumers on methods of keeping, preparing, and serving meat and on how to buy meat effectively. Retailers and wholesalers were reached through personal contact; consumers by television, newspapers, radio, displays at fairs, meetings, and retail stores. Over 200,000 pieces of printed material were distributed, mostly through retail stores. Retailers report a marked interest among consumers in the information being provided through the program.

The market expansion program for dairy products included promotional and informational assistance as well as aid in making milk available to

more people more of the time. Factual information was provided to various educational, professional, and consumer groups, with respect to the nutritional value of milk. Retailers and food wholesalers were assisted in improving the effectiveness of their milk merchandising and advertising activities, and special promotional assistance was provided during June Dairy Month.

Milk vending machines and dispensers were displayed and demonstrated at 35 points in the State; guidance was provided local groups in financing the purchase of these machines. As a result, machines are being placed in schools, office buildings, factories, and other points of heavy daytime pedestrian traffic. Information is being supplied on means of obtaining maximum utilization of the machines once they are placed. Early scattered reports indicate per capita consumption has been increased to one pint per day from the one-half pint per day average that existed prior to the program.

New market information and basic data for grain, cattle, poultry and eggs--(RM:c-4550-7)

Periodically during the season, the Kansas Department of Agriculture issues several grain reports containing information helpful to producers, handlers, and marketers in decision making. The "Wheat Quality Survey" reports current information by counties on protein content and test weight of wheat as the crop moves to the first receiver. With this report, grain buyers know where to obtain grain of specific quality, and producers are in a better position to judge whether buyers are giving proper consideration to quality in pricing. Reports summarizing information on commercial storage available are issued just prior to harvest. These data indicate the areas in which shortages are likely to occur and where additional facilities may be needed. A current price report is made by crop reporting districts on prices received by farmers for the various grades, the proportion of the wheat marketed which falls into each grade, and the protein content. In addition, basic data on sorghum acreage by variety was collected and disseminated to growers, dealers, producers, researchers, and others. This information is used as an aid in the research, certification, and marketing of the crop.

For poultry and eggs, monthly reports by crop reporting districts were issued on prices of eggs by grades, prices of chickens by classes (with seasonal trends), and the proportions of eggs and poultry marketed by grade and class. The price differential between poultry products in the various grades and classes is substantial, and publicity of this fact through these monthly summaries and the market news reports has been a very important factor in obtaining the cooperation of growers in the quality improvement and grading program.

Monthly summaries containing information similar to that reported for poultry products were issued for livestock. Quarterly livestock reports were also issued, for the previous and next quarter, on sow farrowings and intentions to farrow, hog marketings and intended marketings, and calf births and intended births. Inventories of hogs 3 to 6 months of age and hogs 6 months or over were reported on March 1 and September 1.

KENTUCKY

Improving methods and practices and expanding outlets for poultry and eggs, grain, livestock, honey, fruits and vegetables, and dairy products--(RM:c-2550-2)

The Kentucky egg quality program included grading demonstrations; assistance in the establishment and operation of local egg grading stations; assistance to dealers in selecting and installing cooling units with an aggregate capacity of 1,200 cases; assistance to 5 producers in constructing insulated egg cellars; development of a cooperative egg market at Louisville; supervision of quality egg schools; discussions of egg grading and quality on the radio and in news articles; operation of egg quality booths at county fairs; promotion of egg shows; and distribution of leaflets which summarize points to remember in grading, candling, and packing eggs.

In south-central Kentucky, flock sizes increased rapidly--partly as a result of encouragement by marketing specialists. As an individual flock reached 1,000 birds, specialists worked closely with the producer until he was qualified to grade and market eggs directly to Louisville, thereby eliminating extra handling at local grading stations. For the smaller producers who used the grading stations, new markets were developed in the coal-mining sections to the east. Similar growth in quality egg production is going forward in western Kentucky. There, the use of open cartons is proving to be effective in building consumer acceptance. Eggs are picked up daily at the egg stations, cartoned, and delivered to the retailer the following day. Eggs handled through local egg-grading stations or sold direct on a graded basis--totaling 270,000 dozen--brought producers an average premium of 8 cents per dozen.

To assist in achieving maximum distribution of broilers, a report containing information on the location and volume of available supplies was issued to producers and dealers. It was also issued to 5 large processors who have indicated an interest in locating broiler plants in the State. Growers in certain areas in which a sufficient number of broilers are produced to support a processing plant are presently shipping birds long distances to terminal markets. A list of hatcheries and broiler processors in the State was assembled as an aid in advising producers where to look for supplies of chicks and possible market outlets.

In addition, a marketing specialist was assigned to the major producing area to assist producers in locating outlets.

Because many processors use Cincinnati market news quotations as a basis for producer payments and as such quotations often do not accurately reflect supply and demand conditions in the producing areas, a daily market news report was initiated on prices and supplies in south-central Kentucky--the major producing area. This report is issued over the radio and in newspapers.

The rate of increase in the volume of livestock moving through local auctions has far outstripped the development and adoption of proper methods for handling the increased number of animals. As a result considerable loss results from excessive bruising. During the past year signs and leaflets were distributed to producers and auction employees describing the losses that occur from bruising and indicating means of avoiding such losses. In addition, the lack of an adequate grading system penalizes the producer of quality livestock since his animals are often grouped in pens with low grade livestock. A survey of the opinions of auction market managers and buyers revealed widespread interest in developing a State livestock-grading system. Accordingly, a proposed grading program is presently being prepared and will be submitted shortly to the Livestock Auction Market Association for consideration.

At the request of livestock producers, a market news report was initiated covering prices by grade of lambs and hogs sold through local auctions. The market news reporter attends the principal central Kentucky auctions on sales days and releases the market information to radio stations and newspapers for issuance the following morning.

At the request of the Extension Service and market managers, demonstrations and assistance were provided producers in packing, grading, and handling pink tomatoes, snap beans, and strawberries for the fresh market--new enterprises in a number of areas. For pink tomatoes, growers were also assisted in organizing a central packing and selling cooperative and in designing and developing operational procedures for the facilities. Later, at the request of processors, producers were advised with respect to the proper stage of maturity to pick tomatoes for canning. About 2,500 copies of publications summarizing the points to remember while picking, packing, and grading the various products were issued to growers and operators of packing sheds. Producers were also assisted in regrading at the local markets where it was evident that poor grading was responsible for price discounts.

For the benefit of buyers in and outside the State, reports were issued just prior to the harvest season entitled the "Kentucky Vegetable Report" and the "Kentucky Strawberry Buyers' Guide," containing data about new areas, production estimates, varieties, market facilities, transportation facilities, harvest dates, and the names and addresses of marketing

agencies and county agricultural extension agents. Approximately 1,500 copies of these reports were disseminated. Information was also provided weekly during the season on volume of marketings and prices paid by area, and the anticipated volume for the coming week. It is estimated that growers realized an additional $21,000 from the sale of vegetables and strawberries as a direct result of the assistance provided under this program.

Commercial production of sorghum syrup, though not a significant factor to the agricultural income of the State, is quite important in a number of areas where additional farm income is needed. This past year farmers in the Hancock-Hardin County area requested a service program to improve processing and marketing practices and expand outlets. In that area, the production of syrup was triple that of the preceding year. A marketing specialist held 5 meetings to discuss improved practices and made 30 onfarm visits to indicate the proper harvesting and cooking techniques. Assistance was provided the central blending plant in planning the expansion of the space devoted to processing, installing a new conveyor, and revising the processing procedure. Efficiencies resulting from these changes increased the processing capacity of the plant by 25 percent.

Four hundred retailers were circularized with promotional material resulting in a $35,000 increase in sales over the previous year. Retailers queried regarding ways in which syrup marketing operations might be improved submitted the following suggestions: (1) Place the current season's production on the market no later than September 1, or even better, produce in such quantities that syrup is available the year round; (2) use better glue for attaching labels to glass containers; (3) furnish advertising display material to retailers; (4) provide prospective buyers with sample jars of syrup; (5) pack some syrup in tin; and (6) stamp each case of syrup with the brand name and number and size of jars. Many of these suggestions have been adopted by producers.

Preparations were made for a Statewide survey to obtain the information necessary to the development of a service program for the grain industry. The study will include an inventory of commercial processing and storage facilities, information on methods of handling, grading, and marketing, and the suggestions of grain dealers on ways in which grain marketing might be improved.

Last year potato producers in the St. Matthews area lost the services of their central packing and sales agency when the produce exchange there ceased operations. Faced with the need to grade and pack on the farm and market their potatoes themselves, producers requested the assistance of a specialist in planning small grading and packaging sheds, in installing the required equipment, and in developing a sales program.

The special promotional program for increasing milk consumption through the use of vending machines has resulted in the placement of 12 units in large factories and schools. Each of these machines has operated profitably and the program has received new support by the State office of the American Dairy Association, the Dairy Committee of the State Farm Bureau, and the University of Kentucky. Results of studies conducted at Cornell University and the University of Wisconsin on the use of milk vending machines were used as a basis for the service work under this project.

Obtaining and analyzing basic agricultural data--(RM:c-4550-2)

To provide an intelligent basis for assisting producers in developing a cooperative egg market at Louisville, the Kentucky Department of Agriculture assembled information on the number of commercial egg producers in the area, volume of eggs that would likely move through the market initially, the potential production in the area, and the marketing facilities presently available to producers. The "Broiler Survey of Kentucky," reporting current production, prices paid, location of chick supplies, and availability of processing facilities, was supplied to producers, hatcherymen, and processors. An apple and peach survey recently completed covered the number of bearing trees by age, variety, and yield; intentions to plant; and methods of marketing. Such information was requested by box companies, equipment manufacturers, processors, and buyers.

LOUISIANA

Improving facilities and expanding outlets for dairy products--(RM:c-2550-1)

In the past, due to the lack of adequate processing facilities, substantial quantities of milk have been dumped or sold at substantial discounts to distant plants during the seasons of peak production. Under a 1952 act of the legislature, political subdivisions may vote bond issues for the financing of industrial enterprises. Using the rights granted under the act, the dairy farmers of Washington Parish sponsored the building of a $500,000 dairy plant. The sponsoring group made extensive utilization of data supplied by the State department of agriculture in planning plant layout and determining the types and sizes of equipment to install. The information supplied included the volume, prices, and sources of the various dairy products imported into the State and the quantities of surplus milk which can be normally expected in the principal producing areas. Marketing specialists were able to supply most of these data from the regular semimonthly reports received from milk plants on receipts and utilization of dairy products.

During the past year, marketing specialists helped producers move approximately 13,000,000 pounds of surplus milk for consumption in fluid form in deficit areas. Information on supply conditions in various surplus

areas was made available daily to deficit markets within the State and in adjoining States. The increased proportion of milk moving as Grade A rather than for manufacturing purposes, as a result of this program, brought producers about $394,000 in additional returns.

Improving marketing methods and expanding outlets for poultry and eggs--(RM:c-2550-53)

Eighteen meetings were held in Louisiana with 372 processors and retailers in attendance, to demonstrate the most recent developments in broiler handling, processing, packaging, storing, merchandising, and retailing techniques and to urge their adoption to achieve better quality maintenance, reduced costs, and increased sales. These meetings were held jointly with the Extension Service and the Poultry and Egg National Board. At the request of county agents, producer meetings were held about the State to demonstrate the use of grades and standards for eggs, to point out the relationship of quality to prices paid for both broilers and eggs, and to stress the importance of selling to buyers who take grade and quality into account. Similar information was presented in newspapers and over the radio. Assistance was provided a group of producers in planning the organization of an egg-packing and -grading cooperative and 3 egg buyers in packing eggs according to official grades. In cooperation with the Extension Service, classes of poultry were demonstrated at the State Fair, and 4-H Club judging contests were held about the State. Department of agriculture specialists appeared on 2 radio and 4 television programs to acquaint consumers with the meaning of the various egg grades and to encourage them to use grades in buying. State institutions were assisted in developing a quality procurement program under which all products are inspected by State inspectors and the unsuccessful bidders shown the shortcoming of their products.

Outlets were found for more than 10,000 birds which producers were not able to dispose of through the trade channels normally available to them. And a list of broiler producers in Louisiana was completed to assist processors and other buyers in locating available market supplies.

Technical assistance to cotton gins in maintaining fiber quality--(RM:c-3550-25)

In Louisiana, there has been a marked trend in recent years toward larger and better equipped cotton gins. At the start of the 1954 ginning season 396 gins were in operation compared to 436 in 1951. Practically all the gins in the State were visited to assist and instruct gin personnel in the adjustment and operation of the rather considerable amount of new machinery installed prior to the ginning season. Response was also made to 137 requests for technical assistance in remodeling old gins and obtaining maximum efficiency from gin operations and in planning the construction of new gins. Cooperating in this work were local USDA cotton-classing offices, the USDA ginning laboratory at Stoneville, Miss., the Extension Service, ginning associations, gin equipment manufacturers, and cottonseed oil millers.

MAINE

Improving distribution methods and expanding market outlets for potatoes, poultry and eggs, apples, and dry beans--(RM:c-2550-13)

In Maine, the State department of agriculture assisted the Maine Potato Tax Committee in the development of its potato advertising program, particularly in the design of display material and by providing experienced personnel to operate exhibits at produce shows and conventions. At the Eastern States Exposition, the State department of agriculture directed the Maine agricultural exhibit in which the principal items on display were sized and washed potatoes in polyethylene bags. In addition, samples of Maine baked potatoes were made available to those in attendance.

In cooperation with the State experiment station, consumer preferences, with respect to variety, were determined through controlled experiments in retail stores. Four varieties, identically displayed and packaged, were offered for sale during a 6-week period. Of the 46,000 pounds of potatoes sold in this test, 40 percent were Green Mountain, 30 percent Katahdin, 20 percent Russet Burbank, and 9 percent Pontiac. During the test period, the sales of Green Mountain potatoes increased from 39 to 46 percent of the total moved weekly.

In cooperation with the Maine Potato Tax Committee, the Maine Potato Handling Research Center and the Agricultural Marketing Service, USDA, the State department of agriculture directed a special program aimed at encouraging the packaging and sale of sized and washed potatoes in polyethylene bags. This program was divided into 2 principal phases. The first phase involved (a) obtaining the cooperation of shippers in furnishing a dependable supply to retailers during an experimental 3-day promotion period; (b) obtaining the cooperation of several large supermarkets in 2 cities in handling these specially handled and packaged potatoes; and (c) publicizing the product among consumers by newspapers and radio for the 3-day period. The second phase was concerned with (a) promoting the handling of the product among wholesalers by advising them of the greatly increased sales which resulted from the experimental merchandising program, and how an expanded sizing, washing, and visible packaging program would benefit all elements of the trade; (b) furnishing cooperating wholesalers with advertising material for their retail customers and lists of shippers using polyethylene containers; (c) advising shippers, whose potatoes arrived in condition unacceptable for this program, what corrections they needed to make in their grading and handling methods; and (d) assisting producers and shippers in expanding existing warehouses and building new ones to accommodate the washing, sizing, and packaging equipment required.

The sized and washed potatoes, packed in a visible container outsold all other potatoes even when the price of a 10-pound bag exceeded that of a regular 15-pound bag of unwashed potatoes. As a result of the acceptance and demand for the better quality, and more attractively packaged potatoes, the total number of potato washers in Maine increased from 4 to 12 during the year.

Maine egg producers cooperating in the State label program are receiving a substantial premium for their eggs. Producers from as far away as Aroostook County are now effectively competing on the Boston market. Farmers are being furnished cases and are receiving at the farm prices within 1 or 2 cents of the average Boston delivered price. In addition to promoting the use of a State of Maine brand, this program involves (a) sanitizing, candling, packing, and merchandising demonstrations and assistance to producers, wholesalers, and retailers; (b) the development of cartons which prevent breakage more effectively and the encouragement and demonstration of their use; (c) informing consumers in retail stores, at expositions, and at trade shows of the meaning of the different consumer grades under the State of Maine label; and (d) licensing of producers and dealers to use the State trademark.

A State label program was also initiated for cut-up poultry. Grades and standards for ready-to-cook poultry parts were established. Eviscerating plants observing State grade regulations and using continuous veterinary inspection were licensed to use the State trademark. Wholesalers and retailers were trained in the proper methods of buying, cutting, handling, packaging, storing, displaying, pricing, and merchandising broilers and turkeys. One retailer reported that his sales of cut-up poultry increased from 3 to 12 cases per week after instituting the merchandising methods demonstrated at the training sessions. To publicize the quality standards of the trademark among consumers, a number of large retail outlets maintained special displays over a 30-day period. Further publicity was given the State of Maine brand at the Maine Broiler Day festival, which was attended by 12,000 persons.

Weekly reports were continued on the number of eggs set, the number of chicks hatched and imported into Maine, and the number of chicks placed in Maine and Connecticut. In cooperation with the Maine Turkey Growers' Association, prices at the producer and wholesale levels were reported weekly during the Thanksgiving and Christmas seasons. Grower prices were reported by association members and the department market reporter supplied wholesale quotations.

In the past, dry beans harvested when high in moisture content have frequently spoiled due to lack of proper drying prior to storage. With the large increase in the production of dry beans, producers have requested assistance in developing and installing suitable drying facilities. Since drying kilns similar to those used in other States do not adequately accomplish drying of Maine-produced beans, various other methods were tested at the Maine Agricultural Experimental Farm.

The recommendations developed for drying under Maine conditions resulted in the construction of a large commercial drying station and the widespread installation of farm drying facilities. The use of these new facilities has reduced losses due to spoilage by 90 percent. The dry bean industry was also assisted in establishing a merchandising program to move this year's large output of Maine's yellow eye beans.

The bruising of apples and stem puncture that occurs from the time they leave the packing shed until placed on display at the retail store continues to be a serious problem for Maine producers. A number of tests were made with the McIntosh variety to determine what type of package and packing methods would result in the least amount of bruising. The apples were inspected at the time of packing and upon arrival at the retail store in Portland, Maine. Sample packages were shipped directly to retail outlets and through intermediate warehouses to the same retail store. Only 15 apples per box packed in tray packs showed minor bruising in transportation compared to 27 apples in carry-out cartons and 28 apples in polyethylene bags. With respect to puncture, 1.5 apples per box packed in tray packs showed damage compared to 4.7 apples in carry-out cartons, and 12 apples in polyethylene bags. In view of the excessive damage in carry-out cartons and polyethylene bags, efforts were made to improve master containers for these packs. The findings of the study were made public, resulting in increased adoption of better packages and higher quality fruit being offered the consumer.

MARYLAND

Improving handling and marketing practices and expanding outlets for fruits and vegetables--(RM:c-2550-38)

Endeavoring to increase the consumer acceptability of Maryland peaches, marketing specialists assisted growers in grading, packing, and marketing the fruit in tree-ripened form. Since the use of the conventional half bushel and bushel wooden containers resulted in excessive damage in transit to the more mature fruit, 4- and 8-quart corrugated containers with wooden handles and 6-peach cell-pack containers were used. During the early part of the season, peaches packed in the 4-quart and cell-pack containers brought very high prices. As the season progressed and prices declined with more plentiful supplies, these containers were abandoned in favor of the 5-quart container in which a larger volume of fruit could be moved at less cost. Growers received from $1 to $2 more per bushel for tree-ripened fruit than fruit picked at the usual stage of maturity and marketed in conventional containers.

Maryland producers and retail chain stores in Washington and Baltimore were assisted in developing a joint quality maintenance program for fresh sweet corn. The program involved using staggered plantings to assure a steady supply throughout the season, various devices for cooling upon picking (in one instance a hydrocooler), refrigerated holding rooms on the farm, transportation at low temperature, the use of ice in produce racks,and the use of refrigeration for holding additional supplies. One grower shipped his corn to market iced in 5-dozen-ear, wet-strength paper bags receiving 8 cents per dozen over the top market price. This program resulted in a substantial increase in corn sales in the cooperating stores, less spoilage, and an average net profit to producers, after

considering increased costs of 2 cents per dozen over the profits realized for corn handled in the usual manner.

Prior to the strawberry marketing season, letters were sent to 150 strawberry buyers throughout the northeastern part of the country advising them of the dates when marketing would begin and reach its peak and the probable peak volume at the three auctions serving the lower Eastern Shore. To promote the sale of commodities in plentiful supply, a weekly radio program was conducted during the season pointing out best buys to consumers. A special newspaper campaign was carried on to promote the sale of cantaloups.

Under this project, advice and assistance were provided groups sponsoring improved produce market facilities. At the request of a group of growers and the State Legislature, the Governor established a committee chaired by the Head of the Division of Markets, to study wholesale pricing and mark-up practices in the Baltimore market. In addition, producers were assisted in appraising facility improvements needed on the Hagerstown Municipal Farmers Retail Market and the desirability of establishing a farmers' market at Rockville.

Improving handling methods and facilities for grain and hay--(RM:c-3550-24)

Shortly before the 1954 harvest season, Maryland wheat producers were faced with a serious shortage of commercial storage space in Baltimore and Philadelphia; there appeared to be little chance that the available space would be cleared of the 1953 crop in time to receive the new crop. Although this emergency was averted by an accelerated Federal export and "wheat-for-feed purposes" program, preliminary arrangements had been worked out in March by a committee, composed of representatives of the department of markets, growers' groups, and the Baltimore Chamber of Commerce, to use an idle foundry for storage. At the same time elevator operators were being urged to increase the capacity of their facilities by 1,000,000 bushels.

Work was begun on a service program to encourage and develop more uniform grain-purchasing practices in cooperation with the Eastern Shore Grain and Feed Dealers Association. A number of dealers requested the program because of their concern over widespread producers' dissatisfaction with moisture tests and lack of uniformity in methods of determining discounts. On a voluntary basis, dealers' moisture testers were inspected for accuracy and those found to be accurate were so tagged. Concurrently, demonstrations of the use of testers were provided dealers and producers by the Extension Service. Recommendations were made for improving sampling techniques and for using only one basis; that is, excess moisture content for determining discounts. Also, procedures for discounting soybeans with excess foreign material were suggested to dealers. Two corn and soybean grading schools were held, attended by 100 dealers.

From time to time, information relating to improved methods of harvesting, storing, grading, and marketing grain were released to the press and radio and discussed at meetings about the State. Local and area prices paid by dealers were reported weekly over the radio.

A "Hay Available" report containing a list of dealers with available supplies was issued weekly to producers in drought areas. This report quieted the panicky bidding up of prices on the part of farmers who believed the hay shortage to be general rather than local in nature.

Improving methods of grading and marketing livestock--(RM:c-4550-29)

The Maryland livestock program was concerned with acquainting producers with (1) official livestock grades and the importance of their use in identifying the true market value of livestock; (2) dressing percentages of various kinds and grades of stock; (3) shrinkage from the farm to the packing plant; (4) losses sustained from bruising and other factors due to rough handling of live animals; and (5) the advantages and disadvantages of marketing through the several channels available such as local buyers, local auction markets, direct to packers, and on consignment to commission firms to terminal markets. The increased demand for meat type hogs and the importance of marketing lambs before they lose their bloom were also pointed out.

The livestock conservation program was continued at the request of meat packers and marketing agencies who were anxious to achieve a reduction in the number of bruised, crippled, and dead animals arriving at packing plants and stockyards. In meetings held about the State on the subject, displays were presented of bruised meat and of scale models of the proper types of loading ramps, sorting pens, and other handling facilities. Wherever possible, actual handling demonstrations were given; frequently, demonstrations of proper grading methods were provided at the same time. Handling and grading were also dealt with extensively in newspaper articles, radio and television programs, and leaflets.

In October the "First Annual Maryland Feeder Sale and Grading Demonstration" was sponsored by the State department of agriculture. Animals qualifying for the sale were required to meet certain grade and weight requirements and the State's health and sanitation requirements with respect to disease and protection against blackleg and shipping fever. Shortly after the sale the Maryland Beef Cattle Producers, Inc., was organized to sponsor future events of this kind and to promote the marketing of cattle on a graded basis and the production of high-quality animals. The organization is also sponsoring a program to promote beef consumption with the help of the Maryland Department of Markets and the Departments of Animal Husbandry and Agricultural Economics of the University of Maryland.

Marketing specialists learned that Brucellosis reactors, shipped to the Baltimore Union Stock Yards, were selling well below the price for nonreactors of equal grade and weight. Investigation revealed the cause to be abnormal lack of buying interest with virtually all reactors going to one packer. A buyers' meeting was held to discuss the effect of the depressed prices on producers' income and to encourage buyers to participate actively in the market for reactors. Early indications are that normal buying interest has been resumed.

Assistance was again provided sheep producers in forming and operating a wool marketing pool at the request of the Maryland Sheep Breeders' Association. Four pick-up points were established at which the wool was graded upon delivery from the farm. This gave producers an opportunity to observe how wool is graded, what the official grades are, and their relationship to prices paid. In addition, the relationship of type of animals to grade of wool was indicated to provide producers an added basis for culling the flock and selecting replacements. After grading was accomplished assistance was provided in locating outlets for wool. It is estimated that wool sold through the pool brought a 12-cent per pound premium because of the competition created through the establishment of the pick-up points. This meant total added returns of about $17,000.

Securing new basic information--(RM:c-4550-30)

A publication entitled "Maryland Agricultural Statistics" includes data on a State basis for the 1919-1952 period on the harvested acreage, yield per acre, and production and price of all farm products for fresh market and for processing. A frozen food locker survey to obtain information relating to policies, rental rates, and rates for other services was initiated at the request of the Maryland Frozen Food Locker Association. Preliminary work was completed on the development of a program to collect data annually on beef-cattle numbers.

MASSACHUSETTS

New basic data for vegetables--(RM:c-4550-1)

Continuing its service of providing the vegetable industry with basic market information, the Massachusetts Department of Agriculture released, just prior to the 1954 season, a report entitled "Massachusetts Vegetable Crops." This report compared for each vegetable (1) 1954 intentions to plant with 1952 and 1953 actual planted and harvested acreage on a State basis; (2) harvested acreage in 1952 and 1953 on a county basis; and (3) total production, average yields, and prices received by growers or growers' agents at the first point of sale during 1952 and 1953. The 1954 report, the first of the series to carry average-price data for all vegetables, also points out the types of packages in which produce customarily brings the highest prices.

MICHIGAN

Certification of nursery stock--(RM:c-2550-20)

In the past the methods for certifying disease-free nursery stock have not been adequate to fully assure buyers that they were obtaining disease-free stock. In view of the fact that freedom from disease is a prime-quality factor in the marketing of this commodity, a program was initiated several years ago to develop improved, disease-free certification methods. The research under this project is being conducted by the Michigan Agricultural Experiment Station with the counsel of marketing specialists of the State department of agriculture. As new methods are worked out service personnel develop their use and application commercially.

The greatest progress to date has been made with cherries, using visual inspection for diseases with easily discernible symptoms and indexing techniques in which source trees are budded into susceptible varieties for diseases whose symptoms are masked on the source trees. Last year 145,000 Montmorency buds and 37,000 buds of the Bing, Black Tartarian, Napoleon, Schmidt, and Windsor varieties were furnished nurserymen from disease-free orchards at the experiment station. It was considered impractical to maintain only one source of the propagating wood supply of all varieties and a program of distributing source disease-free trees to the 9 cooperating Michigan nurseries was initiated. This involves locating a sufficiently isolated area at each nursery and maintaining "sterility" of the orchard, once it is established. Seed collected and planted in 1952 from the most popular seed species, Prunus maheleb, resulted in the harvesting of 13,000 virus-free seedlings, 10,000 of which were sent to cooperating nurseries in 13 States. Also virus-free seedlings of other varieties were received from other States for project work.

For peaches, two methods of certification currently are being used with success: (1) Repeated inspection of all peach trees within 1 mile of nurseries and elimination of all infected trees; and (2) treating propagating budwood in hot water (120° F.) for 5 minutes. Heat treatment insures freedom from all virus diseases except rosette mosaic. Periodic elimination of infected trees within 1 mile of the nursery orchard is necessary because the diseases involved are extremely infectious. Last year more than 6,400 trees were inspected as sources of propagating wood and 55,000 trees of bearing age near the nursery were inspected for contamination.

To date researchers have not successfully developed a reliable method of certifying strawberry stock. However, the work is going forward and several thousand plants of the Robinson, Catskill, and Marshall varieties will be released to cooperating nurserymen who are able to comply with the rigid requirements for growing conditions and isolation from other strawberry plants.

The work on this project has resulted in a strong demand for stock certified under the improved methods. It has also created interest in improving certification procedures on the part of certifying agencies. In the past, certification has been based primarily on visual examination; whereas this project has established the fact that visual examination is not always adequate.

Improving grading, handling, and packing of fruits, vegetables, and eggs--(RM:c-2550-41)

At the request of the apple industry, the department sponsored a tour, by several growers, of modified air storages in New York State. There, experiments are being conducted on methods of lengthening the shelf life of apples after they leave storage. A study of trade preferences for apples was made at the request of the Michigan Apple Commission and the findings reported at a meeting of the State Horticultural Society and at local meetings held about the State in cooperation with the Extension Service. Producers are now required to observe U. S. grades and State labeling regulations for peaches, potatoes, tomatoes, cantaloups, and slicing cucumbers. Red sour cherries for processing must be Federally inspected and at least 88 percent of each lot delivered must grade U. S. No. 1. The application of the grade and labeling regulations and other improved marketing methods were explained and demonstrated in the various producing areas with the cooperation of the Extension Service, the Michigan Cherry Commission, and others.

Egg and poultry grading and packing demonstrations were augmented by a special program to promote the use of grades. At agricultural fairs, a large robot egg was exhibited with pictures and displays to attract the attention of both producers and consumers to approved grading, candling, and marketing methods. Exhibits also were maintained at farm markets and public schools. Extensive use was made of tape recordings at meetings and over the radio to discuss methods for grading and handling various products. Such recordings were made of discussions with key persons at various points in the marketing system.

Special market information for fruits and vegetables--(RM:c-4550-15)

The lack of information on crop conditions in competing areas has always been a major marketing problem to the large number of small fruit and vegetable producers in Michigan. The State department of agriculture issued a series of market reports to correct this situation. The onion releases, for instance, included information on conditions in Texas, so that Michigan producers and dealers might schedule their marketings to avoid a gap or overlap between the marketing season of storage onions and that of the new crop from southern Texas. The first issue in the series contained a map of Texas showing the location of the producing districts and for each district the estimated acreage, planting distance between rows, and the extent of their use of irrigation.

Data were reported on trends in celery production in competing States and marketings from those States in major Michigan celery markets. For strawberries, continuous contact was maintained with the Federal-State Crop Reporting Services in Washington, Oregon, and California to obtain data on the size of the crop, progress of the harvesting and shipping seasons, product quality, and prices received in those States. The progress of the strawberry crop in the various Michigan producing areas was also reported.

For several years work has been conducted on the development of more dependable methods for forecasting sour cherry production. Yield per tree and likely production can now be estimated with increased accuracy by a multiple-correlation formula using as factors the recent tree count, growers' reported percent of full crop, and an index of crop maturity based on daily maximum temperatures. This year the peak of the strawberry harvest was forecast with a fair degree of dependability. The forecast was based on a correlation of the average daily maximum temperatures for May and the date of first receipts of asparagus for processing for the years 1945-52.

A mailed survey of fruit growers indicated that the number of bearing peach trees declined 10 percent the second year in a row while the number of bearing sour cherry trees increased 6 percent. Strawberry acreage was down 5 percent from a year earlier.

MINNESOTA

Improving grading and maintenance practices for dairy products, apples and honey--(RM:c-2550-47)

The Minnesota State Mobile Bacteriological Laboratory continued to move about the State in a program of aiding manufacturing plants to establish uniform milk- and cream-grading programs and to locate and correct conditions causing quality deterioration. In connection with quality control, samples were drawn of the incoming raw milk and of the various dairy products being manufactured at several points in the processing line and submitted to the Mobile Laboratory for analysis. Using the results of the analysis, specialists from the laboratory and plant personnel set about determining the source or sources of contamination including examination of the water supply, containers, machinery through which the product flowed, and the handling methods being used by producers and between the producer and the plant. All of Minnesota has been served once by the laboratory and about half the State covered a second time. The improved quality of Minnesota dairy products brought about by this program and other efforts has made it possible for dairy plants to compete more effectively for out-of-State markets--an important consideration since 80 percent of the total volume of dairy products moves to other States as fluid milk, butter, cheese, and dry milk powder.

This past year the circulation of The Minnesota Apple News was increased so that distribution could be made to all truckers and other buyers in a 5-State area. This publication, issued monthly throughout the harvest season, contains information on the location of important producing areas of the various types and varieties of apples; harvest dates and crop prospects in each area; and size, quality and color of the fruit. Apple prices are reported in the Fresh Fruit and Vegetable Market News during the marketing season.

With the help of State specialists, the honey industry developed grades and standards for their product. The grades established were Minnesota fancy, choice, and standard. The fancy and choice grades are table grades and the standard is used for baking and cooking. Beekeepers believe that the practice of selling by grade deserves most of the credit for the price in 1954 averaging 5 cents per pound higher than in the previous year and for the increased interest on the part of wholesalers and retailers in handling honey. This price increase resulted in added gross receipts to the industry of $900,000.

Certification of nursery stock--(RM:c-3550-28)

The production and marketing of stone-fruit nursery stock of the Prunus variety, hardy enough to withstand winters in the North Central States and Canadian Provinces, is one of Minnesota's most important agricultural industries. In recent years, the out-of-State market for Minnesota stock has been limited by the increased restrictions on interstate and international shipments of nursery stock not certified as to freedom from virus diseases and as to the absence of these diseases in the propagating nursery. Minnesota orchardists are also demanding disease-free stock.

To solve this quality problem, marketing services to develop methods of certifying disease-free stocks have been provided since 1949. In this program, technicians assist nurserymen in (1) establishing virus-free budwood sources; (2) inspection of the trees used as propagation sources to verify the absence of those virus diseases which produce readily discernible symptoms; and (3) indexing or testing the source trees for diseases producing hidden or masked symptoms by budding them onto susceptible lost varieties which will show readily discernible symptoms for the same diseases if the graft is infected. Cooperating in this work are the Divisions of Plant Pathology and Horticulture, Minnesota Department of Agriculture, State agricultural experiment station, and the University of Minnesota. Also, scientists in 5 other State experiment stations, 2 U. S. Department of Agriculture field stations and 4 Canadian experiment stations have provided advice and counsel, and cooperation in the exchange of plant materials for virus disease studies.

Budwood sources free of virus diseases with visible symptoms and the necrotic ring spot disease requiring indexing for detection have been established in 6 blocks in 5 large nurseries. There are 1,100 trees in these blocks representing 52 varieties. Disease-free sources were first established in large nurseries because they are in a position to supply smaller nurseries with disease-free stock in wholesale lots.

The infection of rootstock used in nurseries was also studied since the plant resulting from a graft will be infected if the rootstock is diseased. Work is under way to develop methods of producing stock free from "x-disease." Last year surveys found this disease present in 76 of the 87 counties in the State.

New basic data—livestock, eggs, turkey, dairy products, and oilseeds—(RM:c-4550-26)

At the request of specialists concerned with quality improvement, information was gathered for eggs on methods of handling; relation of prices to quality and grade; and methods of sale as related to volume of production and geographic location. Estimated turkey hatchery poult production by light and heavy breeds and intentions of producers to keep breeder hens for turkey egg production were reported to help growers plan their marketing programs in line with the likely supply situation. A quarterly report of sow farrowings was initiated to replace the semi-annual report previously issued. Widespread interest on the part of producers in the more frequent reporting is indicated by the fact that 75 percent of the questionnaires were completed and returned each quarter in time to be used as a basis of the report. These questionnaires were also used to assemble information for a report on the monthly distribution of the calf crop.

Data on milk production by counties from 1944 to 1954 will be issued soon in a supplement to the bulletin entitled "Minnesota's Cattle and Dairy Industry." More than 1,000 persons are on the mailing list for the "Monthly Dairy Summary" containing price and supply information. A publication entitled "Minnesota's Flax and Soybean Industry" was released in May 1954. This bulletin contains information on acreage planted and harvested, yield per acre, production by counties from 1929 to 1953, stocks in storage, seasonal distribution of sales, and price trends for the various oilseed crops.

MISSISSIPPI

Improving methods of handling milk—(RM:c-2550-21)

Considerable reduction has been achieved in the quantity of milk rejected by dairy plants through a quality-maintenance program at the producer's level conducted in cooperation with the Extension Service,

the U. S. Department of Agriculture, and dairy plants. Producers delivering milk of poor quality were visited and given advice and assistance in the proper handling of milk and in installing the equipment required to maintain quality. Almost 400 farms marketing milk to 2 cheese plants were visited to help eliminate sources of contamination. The improvement in cheese quality resulting from the improved raw material permitted one plant to obtain an average of 5 cents per pound increase in price on all cheese sold. Three milk plants, whose dairy products were declining in grade because of the decreasing quality of raw milk supplies, requested a quality-improvement program among the farmers supplying them. This assistance was provided through handling demonstrations at meetings and on farms resulting in significant, quality improvement.

Improving the handling of fruits and vegetables and field peas--(RM:c-2550-27)

Demonstrations of improved handling of fruits and vegetables, attended by more than 3,000 persons, were held in important producing areas through the joint sponsorship of the State department of agriculture, the Farmers' Central Market Board, and the Extension Service. Interest among producers in familiarizing themselves with proper grading and packing techniques was particularly high in areas recently going into vegetable production. Growers in a new watermelon area received such favorable prices, partly as a result of the quality program, that they plan to double acreage next year. Good results were also obtained for tomatoes, sweet corn, peaches, potatoes, spinach, okra, squash, lima beans, sweet potatoes, and mustard and turnip greens. It is estimated that Mississippi producers realized an average price premium of about 10 percent for all fruit and vegetable crops because of the quality program.

Fuller utilization was made of the Farmers' Central Market in Jackson through a special program to acquaint producers with the facilities available in the market. This is the first time worthwhile use has been made of the packing facility there. Forty-five carlots of potatoes graded and packed in the packing shed brought $2.50 to $3.50 per 100-pound bag compared to $1 to $1.50 per 100-pound bag for potatoes shipped unwashed and ungraded. More than twice as much produce moved through the farmers' section of this market as in any previous year.

Producers of Brown Crowder field peas were assisted in developing a program for marketing that commodity in terminal markets as well as to canneries and local markets. Numerous tests were made as to the optimum stage of maturity at which peas should be harvested to insure delivery to terminals in good condition.

MONTANA

Improving quality maintenance practices for dairy products and eggs--(RM:c-2550-52)

The Montana Department of Agriculture continued to assist processors, wholesalers, and retailers in improving the methods of handling and maintaining the quality of dairy products. Three times during the year scorings were made of butter, ice cream, and cottage cheese samples from each manufacturing plant. District meetings were held with plant personnel to discuss these scorings and the improvements that processors might make in plant operations and equipment to maintain quality more effectively. Over 1,000 retail stores were visited to appraise the adequacy of the refrigeration facilities available for storing and displaying dairy products and to suggest improvements in handling methods to store managers.

For eggs, the quality program was limited primarily to the retail level. Marketing specialists visited 1,026 retail stores, noted the percentage of stores which stored and displayed eggs with and without refrigeration, and candled eggs in each store to determine the relative condition of refrigerated and nonrefrigerated eggs. For all graded eggs, 86 percent of those refrigerated were within grade as compared to 70 percent for eggs not refrigerated. For AA eggs, 83 and 45 percent of those refrigerated and not refrigerated, respectively, were within grade. Using these data, specialists pointed out to managers who were not using adequate refrigeration the advantages of proper temperature control in maintaining egg quality.

New basic information for wheat--(RM:c-4550-34)

Many growers producing wheat high in protein content are failing to take advantage of the price premium offered for wheat with this important quality factor because of lack of knowledge that such premiums exist or that their wheat would test high in protein. Last year, data were issued on the percentage of protein in various wheat varieties by cropping practices and by counties during 1951 and 1952, and the premium paid high protein wheat for the years 1933 to 1952.

NEBRASKA

Experimental market news for poultry and eggs--(RM:c-4550-3)

In the past the scarcity of local and area market information in Nebraska has been primarily responsible for the unwarranted wide differentials in prices of poultry and eggs between the various areas and the lack of bargaining power on the part of producers. As a result, experimental market news services for these products were initiated

during the year. Information on prices by grade being paid by local dealers and processors, market "tone," supply, demand and movement are reported daily by newspaper and radio. In addition, a mimeographed market report is issued 3 times weekly to producers and dealers upon request. This report contains additional details of the price data reported daily, the market situation in key out-of-State markets, monthly cold storage holdings, and, in turkey season, information on turkeys summarized from reports from other States.

NEW YORK

Improving marketing methods and providing special market information for fruits and vegetables, livestock, hay, maple syrup, and Christmas trees--(RM:c-2550-26)

The lack of uniformity of the types of packages used for New York vegetables and their lack of effectiveness in maintaining quality in transit are believed by the State department of agriculture to be the major deterrents to market expansion for these products. For several vegetables 8 different types of packages are being used; frequently, second hand containers are used, many of which are unsatisfactory for shipping long distances. As a result, shipping and handling tests are being made of various types of present and proposed new packages; producers, shippers, wholesalers, and others are being surveyed as to their opinions on the shortcomings of packages now being used and the types of packages that would be more desirable from the standpoint of (1) cost, (2) economy of space used in transit and storage, (3) protection of vegetables from loss and spoilage, and (4) attractiveness of appearance. When the results of the tests and opinion survey are known, State personnel plan to encourage the use of the types of packages best suited to each vegetable and assist growers, shippers, and wholesalers in adapting their equipment operating techniques to such types of packages.

At the request of the industry, a study was made of ways in which the apple shipping regulations should be adjusted to effectively control the sizing of apples in count packs such as carton cell and molded tray packs. With the increased volume of apples moving at premium prices in count packs, growers are becoming increasingly concerned about the need for regulations which will eliminate the present practice of placing undersized fruit in these packs. Apparently this practice is sufficiently widespread as to cause considerable dissatisfaction among buyers. The present regulation states only that the diameter of apples in count packs shall vary no more than a quarter of an inch and that the pack shall be reasonably tight. Thus packs designed for 3-inch apples may legally contain apples averaging $2\frac{1}{2}$ inches in diameter. Conclusions and recommendations arising out of the study are being prepared and will be presented to growers, Federal-State inspectors, buyers, and others as a basis for discussion in developing proposals for changes in the law.

The f.o.b. weekly farm and storage apple report for the Champlain and Hudson Valley areas was continued and coverage expanded this past year. During the 32-week marketing period, this release reports farm and storage prices of fruit for fresh consumption by variety, grade, size, pack, and condition; prices paid by processors; movement of apples in and out of storage and to retail stores; cold storage and modified air storage holding; and brief summaries of the apple situation. Producers and storage operators supplying information for the report handled approximately two-thirds of the apples marketed from the area covered. The availability of this information has resulted in more orderly marketing and general leveling of prices paid at various points, except for differences attributable to variations in transportation costs. Similar f.o.b. reports on hay, Christmas trees, and maple syrup have proven extremely valuable in promoting orderly marketing and more equitable pricing.

In compliance with a law recently enacted by the Legislature, the 62 auctions in the State submitted monthly reports on the sales volume of dairy replacements and slaughter of hogs, bulls, cows, heifers, and calves. These reports were tabulated and summaries issued quarterly to auction owners, county agents, and others.

New basic data--fruits and vegetables, dairy products, and field crops--(RM:c-4550-16)

Information on total apple and grape acreage and trends in new plantings by varieties on a county basis was collected and summarized in New York. These data were used by the Extension Service and other agencies in discussing with growers the selection of varieties to plant in light of likely future production of the different types of fruit as indicated by plantings and removals. The information should also prove valuable to marketing agencies in determining when and where to build new packing and processing facilities. Acreage planted to the important muck-grown vegetables was reported to producers and marketers in early July. Tests were continued on the feasibility of using objective sampling methods to forecast more accurately the production of onions. Using one method, involving counting crates of harvested onions in a sample of fields while curing, dependable estimates were made this past year for one major producing area.

More and more New York producers are equipping their farms with bulk storage tanks for milk. A survey was made recently of the present usage of such equipment because of the implications regarding the probable changes that may be needed in farm-to-plant transportation equipment. The survey found that during April 1954, 9,700,000 pounds of milk were delivered from the 269 farms having bulk storage installations. The major upstate producing areas not covered by marketing orders were surveyed this past year to obtain additional insight into trends in the consumption and utilization of surplus milk. Data collected and disseminated include trends in (1) receipts of milk and prices paid by

type of plant such as local plants, county shipping stations, and unapproved manufacturing plants; (2) quantity of whole milk, cream, and skim milk used in the production of various dairy products; (3) yield of finished products per pound of whole or skim milk; and (4) geographic distribution of the production of frozen desserts marketed at the wholesale level.

NORTH CAROLINA

Improving efficiency of cotton gins and cornmeal mills--(RM:c-3550-1)

In connection with technical assistance services in the establishment and operation of improved and new ginning facilities, North Carolina Department of Agriculture specialists made 525 visits to cotton gins, appeared on 15 club and farm organization programs, participated in 50 ginner groups and 25 cotton production meetings, held 75 conferences with Extension Service personnel and 25 with cotton mill technicians, and attended 6 textile meetings. At the request of gin operators, members of the staff assisted in the selection and installation of over half of a million dollars' worth of new ginning machinery and storage and handling facilities. Gin-damaged, or "rough prep," cotton has been reduced from 15.0 to 0.01 percent of the crop in the 6 years this program has been in operation.

Mills processing corn for human consumption were provided technical assistance in achieving the degree of sanitation required under pure food laws. Most of the efforts in this work were directed toward the elimination of insect infestation, rodent contamination, and unsanitary conditions in the mill handling equipment and informing mill owners of the unfavorable influence of the presence of foreign material on the development of markets for corn meal. Department specialists made 350 visits to corn mills, attended 25 miller meetings, conferred 5 times with technicians at 5 cereal laboratories, and assisted the North Carolina Grain Production and Marketing Committee in operating 10 grain-grading schools.

Fiber testing of cotton--(RM:c-3550-29)

The North Carolina cotton service program also included encouraging the sale of cotton by producers and ginners on the basis of laboratory tests showing fiber length, strength, fineness, uniformity, maturity, and other characteristics indicating quality and end uses for which it is most suitable. The volume sold on this basis has increased steadily in recent years. Specialists collect cotton samples weekly from a representative number of gins scattered about the State, conduct the necessary tests, and release results bimonthly to cotton mills and merchants. The influence of test results on prices paid is being publicized among growers and ginners to provide an incentive to produce desirable varieties of cotton and to maintain effective ginning practices.

Improving marketing practices and expanding outlets for fruits and vegetables, poultry and eggs, livestock, dairy products, and tobacco--(RM:c-3550-31)

Apple producers were assisted in organizing and developing operating procedures for a grading, packing, and selling cooperative. It is expected that close to 75,000 bushels of apples harvested in the fall of 1954 will be sold by the cooperative.

Technical services to peach producers included assistance in the installation of precooling facilities, and in obtaining custom cooling service. This resulted in the addition of 5 precooling units during the year, which, together with the 3 existing units, handled approximately 87,000 bushels. It is estimated that precooled peaches brought a premium of $0.70 per bushel. Peach producers were also assisted in obtaining maximum distribution of their 1954 crop through promotional programs over the radio and on television and through special information releases to truckers, chain-store buyers, and others. These releases contained data on harvest dates and on production and quality prospects in the various producing areas. Producers desiring to raise additional funds for promotional activities and surveys of market demand requested the assistance of the State department of agriculture in planning a referendum among peach producers on the advisability of establishing a per unit self-taxing program.

This past year, at the urging of department specialists, early potato producers harvested potatoes in more mature condition and washed a larger proportion of the crop than they usually do. The volume of potatoes harvested at the proper stage of maturity and shipped washed totaled 800,000 bags. Potatoes of this quality and cleanness sold for an average price of 35 cents above the going market for potatoes marketed at the usual stage of maturity and unwashed. Also, as with peach growers, assistance was provided in developing a self-taxing program to raise funds for market survey and promotional activities.

To facilitate the movement of fruits and vegetables, including potatoes, into consumption, a report entitled "North Carolina Fruits and Vegetables - Schedule of Movements" was issued to buyers March 1, covering, for each auction market and shipping point, the approximate date marketing of the various products would begin, probable duration of the marketing period, and the volume of each product which moved through the market or shipping point in 1953. This publication was in addition to the special peach releases mentioned above.

The employment of poor sorting, grading, and handling methods has been a major reason that North Carolina tobacco has not brought maximum possible returns in recent years. To help correct this situation more than 150 meetings were held, in cooperation with the Extension Service, Vocational Agriculture Departments, farm organizations, and warehousemen,

(North Carolina)

to demonstrate methods of sorting and grading according to U. S. grades, of tying hands and otherwise preparing tobacco for market, and of displaying the product on the sales floor. Special attention was given to the way in which tobacco for export should be prepared and handled to more effectively compete on the world market. The meetings were attended by 3,100 persons, including farmers, Future Farmers of America, and 4-H Club members.

The fifth annual issue of the "North Carolina Tobacco Report" was prepared and distributed to about 6,000 persons and agencies, including growers, warehousemen, dealers, radio stations, libraries, and agricultural organizations. This report, issued in March 1954, covered the 1954 tobacco outlook, a summary of sales volume and prices received by producers for the various types and grades during 1953, and trends in the consumption of cigars, cigarettes, and other tobacco products from 1920 to 1953.

The production of Grade A milk in North Carolina has approximately doubled since 1949 creating many new marketing problems, particularly during the spring and summer when production is at its peak. During the 1953-54 marketing season, current information was supplied producers in the surplus-producing western North Carolina areas, with respect to the market needs for fluid milk in the deficit areas of the State, and advisory assistance was provided in assembling and transporting the milk efficiently to these areas. Also, a plan was worked out by which a bulk plant in the western part of the State obtained a base with eastern North Carolina plants to allow the bulk plant to participate in Class I sales for the eastern plants the year round. With this arrangement, the eastern plants are assured of a more stable supply and western producers are provided additional outlets. Without these market expansion services, considerably more North Carolina milk would have moved into manufacturing plants at a price substantially below that paid for milk sold as Grade A.

Milk plant managers were assisted in developing more uniform classifications of milk. To create better understanding of milk marketing problems among milk producers and distributors, data were assembled and released periodically on current market trends, base rules, sales volume, receipts, and other factors.

Seeking to assist producers in their efforts to improve the marketing of locally produced eggs, department specialists made 600 visits to retail stores to appraise the quality of eggs being offered the consumer and to discuss with retailers the methods most likely to insure quality maintenance in the store. These inspection visits provided helpful background information in later discussions with wholesalers, producers, and others (in the distribution system) whose activities influence quality. Four egg-grading schools were also held in cooperation with the Extension Service. Detailed plans and specifications and advisory assistance during construction were provided for 2 new egg-grading and -holding stations, and 2 new poultry-processing plants. In addition, plans were

prepared for the improvement of 7 existing processing plants. To help insure movement of poultry products into trade channels without interruption, processors and other buyers were kept advised of the location and supply of eggs and poultry, the preferences of consumers in various markets, and the receiving and distribution facilities available at consuming centers.

In recent years, the sharp rise in livestock numbers in North Carolina has brought about increased need for better marketing methods and facilities. Assistance was provided in marketing 4,000 feeder calves through 12 organized demonstration sales. In these sales, prices paid averaged about 2 cents above those paid on the open market for comparable grades. Over 600 farmers sold 14,000 lambs through pools sponsored by the department. Marketing specialists helped producers develop a program under which over 1,300 fat cattle were sold on a grade and yield basis. Each producer's cattle were inspected and recommendations made as to method of marketing. In cooperation with the Extension Service, assistance was also provided in conducting 17 fat-stock shows and sales. To obtain wider distribution of cattle, local and out-of-State packers were furnished with a summary of the location, number, kind, and condition of animals on feed. Twenty-one purebred cattle and 8 purebred hog sales were held to encourage herd improvement, and assistance was provided farmers in procuring high-quality replacement stock. Using the livestock revolving fund, 1,000 ewes and 200 beef cattle were bought for farmers upon their request.

Improving methods and facilities for handling grain--(RM:c-3550-32)

Drying, storing, and processing facilities have long been inadequate in North Carolina leading to substantial discounts and losses because of high-moisture content and insect, bird, or rodent damage. This problem has become especially acute in recent years due to increased grain production brought on by diversification. A program to improve the methods and facilities for handling grain has been conducted in North Carolina since 1948. This past year, assistance was provided 13 firms planning new grain-handling and -storage facilities. Data were gathered bearing on site location, production in the areas to be served, movement of grain, and market quotations, and advice was given on plant layout and methods of operation. Five elevator and mill operators were assisted in remodeling present facilities, including the installation of bulk dump pits, power hoists, larger and higher speed legs, scales and dryers; 35 grain-drying plant operators in the proper temperature controls to maintain quality; and 36 mill and elevator operators in grading, blending, and marketing grain. This past year, the firms that were assisted in planning new facilities completed 1,000,000 bushels of storage capacity and drying capacity totaling 2,600 bushels per hour. It is estimated that the improved quality of grain and the better bargaining position of the producer brought about by the availability of more and better facilities have increased grower prices from $0.05 to $0.20 per bushel, depending

on the area. Because of increased efficiency these facilities have brought about savings of $0.05 per bushel on corn and small grain and $0.10 per bushel on soybeans.

In cooperation with the Extension Service, 7 grain-grading schools were held at which methods of grading according to Federal grades and of marketing on the basis of these grades were taught and demonstrated to producers and farm workers and to elevator, mill, and sheller operators. It is believed that the expanded use of grades in marketing has resulted in $1,000,000 increase in gross returns to farmers.

NORTH DAKOTA

Improving quality of cream and butter--(RM:c-2550-40)

Over 90 percent of the butterfat produced in North Dakota is marketed as farm-separated cream. In this State, the development of consciousness among producers of the need for quality improvement has been an especially difficult undertaking because most dairy products are produced from small herds, and increases in prices resulting from better quality do not have as important an effect on farm income as is the case with large producers. Sediment testing probably has been the most effective measure in achieving this consciousness and in causing producers to adopt better methods of production, care, and delivery of their cream. Residual dirt on the sediment pad is a tangible indication which farmers and plant employees can easily and quickly grasp. In addition, the appearance of a dirty pad hurts the pride of the producers and stimulates them into doing a better job.

State agricultural personnel cooperate with cream stations and creameries in grading cream and taking sediment tests. Farmers, whose cream is of poor quality or contains excessive sediment, are advised on methods of improving the grade of their product such as washing and sterilizing equipment and installing cooling facilities. The proportion of cream arriving undergrade at the plant has been reduced to about 2 percent of the total--an alltime low. The higher quality of North Dakota butter, as influenced by the improved quality of cream used in its manufacture, was responsible for an additional income of $100,000 from butter sales last year.

Laboratory analyses of fluid milk from various parts of the State indicate that the quality-improvement activities with respect to this commodity have also borne fruit.

OKALHOMA

Improving quality and expanding outlets for poultry and eggs, dairy products, and grain--(RM:c-2550-12)

In the egg quality improvement program in Oklahoma this past year, major emphasis has been given to encouraging the production of "caged" eggs. As a result, the number of caged layers increased from virtually none to close to 100,000 during 1953-54. Present plans of producers indicate this growth trend will continue for sometime. With the assistance of department specialists, producers have disposed of caged eggs at a premium of 8 to 12 cents per dozen.

Technical assistance was provided poultry processors in installing and operating new equipment and retailers were advised on methods of displaying and merchandising poultry products. In addition, to encourage greater consumption of poultry and eggs, 6 poultry and egg cooking schools were held under the sponsorship of the State department of agriculture and Oklahoma A and M College. Consumers were acquainted with methods of preparing poultry products, the nutritive value of these products, the grades and sizes available in the retail store, and were instructed on how to buy according to these grades and sizes.

Acreage restrictions on basic crops have brought about a large increase in the amount of land devoted to vegetable production. Marketing specialists have assisted in the organization of 6 cooperatives to grade, pack, and sell vegetables for the fresh market. These organizations were also provided a list of buyers and assisted in promoting the sale of their commodities during the season through television and radio programs.

Processed fruits and vegetables from the Ozark area historically have had a reputation for poor quality. To help correct this situation, discussions were held with producers on the proper stage of harvesting and the proper methods of handling to maintain quality until their products reach the processor's door. Processors were also shown improved methods of handling and were assisted in developing coordination on the quality program with producers. Increased consumption of Oklahoma processed food was achieved through an agreement with State institutions to use more Oklahoma products and by promotional activities in the market place.

To expand outlets for pecans and honey, retailers were furnished display material and were assisted in placing it about the store in prominent locations. Home Demonstration agents cooperated in this project. Also, for pecans, buyers were furnished information on the location of supplies, by varieties, and the prices being asked at the beginning of the marketing season.

Additional market information services included the periodic dissemination of data on the distribution and placement of chicks and turkey poults; the development of a joint Oklahoma-Arkansas report on livestock marketed through the Fort Smith livestock yards; and, during the unusually wet period, the cautioning of farmers at the early part of the wheat harvest that grain treated with unslacked lime (to lower the moisture content) was being heavily discounted at the elevators.

PUERTO RICO

Experimental crop and livestock reporting--(RM:c-4550-27)

In Puerto Rico the experimental crop and livestock estimating program, which began in 1949, was completed in 1953-54 and is now going forward as a part of the regular insular marketing service program. This past year, the information reported included estimates of intentions to plant, planted acreage, harvested acreage, and total production. For the most part, the estimates were based on quarterly farm surveys. For livestock and dairy products, producers' information was supplemented by data gathered from dairy plants and slaughter houses. Drawing on past experience, the questionnaires and sampling techniques were improved, resulting in estimates which checked closely with final production data--especially for sugarcane, coffee, and tobacco. Other products for which estimates were made are pineapples, coconuts, plantains, cotton, bananas, pigeon peas, sweet potatoes, tomatoes, dairy products, poultry, eggs, and livestock.

SOUTH CAROLINA

Improving facilities for marketing fruits and vegetables--(RM:c-3550-16)

Fruit and vegetable producer and wholesaler groups were assisted in appraising their facility needs and in developing new facilities where required. For instance, a study of watermelon marketing in Allendale county revealed the need for a concentration point for producers and truck buyers; as a result, a successful covered shed facility was established through the efforts of the Agricultural Marketing Commission and local people. The study found that watermelon production in the area had been growing steadily over the past several years and that the development of marketing facilities to serve the increased volume had been inadequate. In addition, this situation had been further aggravated by the need to serve the increased use of truck transportation in the area. In contrast a group in the Pee Dee area was discouraged in its plans to construct a redistribution center for fruits and vegetables. Data presented by State specialists indicated that the area was well served by local assembly markets and that a new center would encounter very strong competition from existing large redistribution centers.

Improving methods of marketing fruits and vegetables--(RM:c-3550-18)

Eight sweet potato digging and field grading and handling demonstrations, attended by 300 growers, were provided in South Carolina in cooperation with the Experiment Station. At the demonstrations, information was also provided on proper methods of curing and storing. The Experiment Station has developed a digging plow which eliminates the need for a second plowing and a separate vine-cutting operation. The new plow brings 95 percent of the potatoes to the surface at the first plowing. Forty-two 4-H Club youths were assisted in marketing their sweet potatoes on a cooperative basis to large chain stores. Better grading, packing, and marketing of South Carolina tomatoes, cantaloups, and sweet corn were promoted through demonstrations, schools, and newspaper pictures and articles.

With the advent of hydrocoolers, peaches may be picked in riper condition than in earlier years. To get this message across and to indicate the proper methods of picking peaches at the proper stage of ripeness, a movie entitled "Picking Peaches for the Consumer" was completed in February 1954 for showings at grower meetings and on the farm to pickers and other workers. State agencies in other eastern States have purchased copies of the film for similar work. A survey to determine the effectiveness of hydrocoolers is now in progress. Nine grower meetings were held at which proper methods of grading, packing, and cooling peaches were discussed. Also, extensive use was made of radio and newspapers to publicize the advantages of the use of proper techniques and how to apply them.

Improving processing, grading, handling, and merchandising of poultry and eggs--(RM:c-3550-19)

Since 1949, the production of poultry and eggs has increased rapidly in South Carolina, but the adoption of proper handling and marketing methods and the development of marketing facilities has not kept pace with the needs of this expanded supply. Poultry producers were shown how to handle poultry properly and were encouraged to allow birds to reach optimum weight prior to marketing and to maintain a more constant level of production in order that processors may be assured a dependable supply. Processors were shown improved eviscerating, packing, handling, and storing practices and were assisted in improving present equipment and installing new machinery. Methods of displaying whole and cut-up poultry and of maintaining proper temperature control in display cases and holding rooms were demonstrated to processors and retailers.

Similar quality and merchandising services were also provided egg producers. Methods of candling, grading, handling, cleaning, and cooling eggs were demonstrated. Producers whose volume was too small to justify the installation of coolers were encouraged and assisted in the organization of cooperatives to handle, grade, and cool their eggs. Direct cooler-to-retail-store marketing was also encouraged.

To help move poultry products rapidly into trade channels at maximum returns to producers, processors and other buyers were kept advised on the location and supply of poultry products.

Improving handling methods and facilities for grain--(RM:c-3550-21)

In South Carolina, two studies were made to provide the department with background data for the development of a more complete service program for grain. One study developed information on the improvements being made in onfarm storage facilities; how farmers handle and market grain; their suggestions for improving the marketing service program; and their immediate and long term production plans. The second study included an inventory of commercial processing and storage facilities; information on methods of handling, grading, and marketing; and the suggestions of grain dealers of ways in which grain marketing might be improved.

Much of the data gathered in the course of these surveys was useful in assisting and guiding persons and groups considering the improvement of existing facilities or the construction of new ones. In Colleton County, plans to construct a $100,000 grain storage elevator were abandoned by one group after considering data, presented by department specialists, which indicated that the present and likely future grain supplies in the area did not justify the venture. On the other hand, the Eastern South Carolina Grain Cooperative is planning to double present plant capacity as a result of the development of similar data on feasibility. The cooperative will also be assisted in planning plant layout for the new facilities.

In April, 9 grower meetings, with an aggregate attendance of 500 persons, were held to stress the importance of proper grain handling and storing on the farm and to indicate the proper techniques and facilities to be used to prevent damage from insects, rodents, and moisture. A publication entitled "Save More in '54; Grain Conservation Program" was presented at the meeting and otherwise circularized about the State. It is believed that the farm facilities installed last year, stemming in part from these activities, resulted in significantly higher returns to the farmer for his grain crop in cash and as feed because of less loss and better quality. To stimulate interest in selling South Carolina grain according to Federal grades, possibly to the point where producers will request the establishment of a Federal grain grading and inspection service, a chart entitled "Know Grain Grades" was prepared and distributed about the State. The chart covers corn, oats, wheat, and soybeans.

Improving the adequacy and utilization of market information--(RM:c-4550-4)

Department specialists appraised the adequacy of the market news releases presently prepared for farmers, as a basis for possible

development of improved methods of collecting and disseminating this type of information. Radio and newspaper reports were studied and producers' opinions were sought with respect to the shortcomings of the information they are obtaining and ways of improving its usefulness. Also considerable progress was made in the development of a sampling system for making annual estimates of the kinds and classes of livestock on farms on a county basis. These data are needed to help farmers plan production and marketing programs and the department and other agricultural agencies to plan service and research work in the livestock field. To inform producers of cattle grades and their bearing on prices paid, a booklet is being prepared containing three views of slaughter steers of various grades and breeds with descriptions of each grade.

SOUTH DAKOTA

Experimental market news and new basic data--(RM:c-4550-25)

The experimental market news service for livestock and poultry and egg producers and shippers, initiated in 1953, was continued this past year. For poultry and eggs, semiweekly radio and newspaper reports were released containing data on supplies available, prices by grades at South Dakota country points and on Iowa markets. For livestock, a weekly summary was issued covering receipts and prices of the various grades and classes of beef cattle at 7 auction markets.

Just prior to the harvest season, a report was released to producers summarizing storage capacity for small grains on and off the farm by counties, small grain production by counties, and onfarm small grain stocks and off-farm stocks of all grain on a State basis.

TENNESSEE

Improving marketing methods and expanding outlets for fruits and vegetables and poultry and eggs--(RM:c-2550-29)

Producers and other groups are showing increased interest in expanding the fruit and vegetable processing industry in Tennessee. Department specialists arranged conferences in various areas with producers, local chambers of commerce, county extension agents, and agricultural committees, and processors who were interested in locating plants in the State. In those areas where processors agreed to investigate the feasibility of constructing a plant, the department of agriculture assisted them in selecting locations, planning plant layouts, and working out production agreements with growers which would assure the processors of adequate volume to permit efficient operations.

Poultry display and merchandising demonstrations were provided in cooperation with the Extension Service and the Poultry and Egg National Board. Processors were assisted in improving and expanding facilities and in developing types of packages which have eye appeal and effectively maintain quality. The handling, grading, and cooling of eggs was demonstrated individually and at meetings to producers, wholesalers, and retailers. To provide incentive to producers to market on a graded basis, reports were disseminated regularly containing prevailing price differentials between the various grades.

Improving methods of marketing livestock--(RM:c-2550-30)

Farmers were assisted in organizing and operating wool pools. At each pool, demonstrations and assistance in grading were provided by marketing specialists, and all wool was sold according to Federal grades. Wool sold through pools brought a premium price of 5 to 6 cents per pound over wool marketed in the usual manner. Assistance was provided producers in selling feeder calves and livestock according to grade, in determining which animals were ready for market, and in locating buyers.

Special market information--(RM:c-4550-20)

To promote more rapid movement of farm products into the marketing system, packers, truckers, wholesalers, and other buyers were supplied regular information during the season on the location of available supplies. In addition, producers and shippers were furnished data on market movement, markets in which surpluses and deficits existed, and trade preferences with respect to quality in each market.

TEXAS

Experimental market news--(RM:c-4550-36)

During 1953-54, experimental market news services were conducted for livestock covering 16 auctions in the West Texas Panhandle area; all of the 16 auctions handled cattle and 2 of the auctions handled sheep and goats. Information was compiled by telephone and by a representative at the auctions during sales days. Reports were disseminated daily by newspaper, radio, and mailed bulletins. The mailed bulletins included not only data on the local markets but secondary data--summarized from reports issued by other agencies--on the San Antonio, Fort Worth, Amarillo, and Kansas City markets.

VIRGINIA

Improving grading and marketing of eggs--(RM:c-2550-4)

Department specialists developed techniques for grading eggs upon receipt at country points on a case lot sample basis. Tests indicate that the sampling system is 90 percent as accurate in determining the grade or grades within which a producer's eggs fall as the individual inspection of each egg delivered. If the sampling system comes into general use, it will permit producers' prices to reflect grades indicated by sample upon delivery and provide marketing organizations a better opportunity to build their volume of graded eggs to the point where capital investment for modern grading and packing facilities is feasible.

The results of a survey this past year, point up the value to producers of selling eggs on a graded basis. The study found that eggs graded and sold through Federal-State grading stations brought a price premium of 7 percent in January, 13 percent in May, and 1.5 percent in August. The survey also found that producers marketing high-quality eggs were complying with 9 of the 13 practices recommended by State department of agriculture and extension specialists while those marketing low-quality eggs were observing only 6 of the recommended practices. Many producers ignored 3 of these practices; namely, marketing eggs twice a week or more, keeping flocks confined and clean, and maintaining adequate nesting.

Improving methods and facilities for handling and storing grain and hay--(RM:c-2550-5)

Last year the hay program was concerned primarily with assisting in the emergency procurement of out-of-State hay for areas suffering severe drought damage to their crop. The operation of the program was explained to dealers and drought committees in the 53 counties requesting emergency assistance. To prevent Virginia from becoming a dumping ground for poor-quality hay, spot checks were made of about 10 percent of the hay moving under the program. Five percent was found to be out-of-grade, and producers receiving such hay were advised on procedures for negotiating adjustments.

Technical assistance in the operation of drying equipment and fumigation and in the efficient utilization of storage facilities was provided to 15 Virginia grain handlers and dealers. Five of these dealers were assisted in establishing official grading services at their elevators. Due to the prevailing shortage of proper storage facilities and the effect of this lack on the quality of grain offered and on orderly marketing, a survey was made of 45 farm storage facilities to help determine the type of facilities farmers should be encouraged to install. The survey found that any building with a good floor and roof will adequately serve as storage; moisture problems do not become serious

if the moisture content of the wheat when placed in storage is less than 14 percent; insect damage can be controlled by quarterly fumigation; and the cost of storing wheat on the farm totaled 8 to 9 cents per bushel.

Special market information--(RM:c-2550-6)

Although 75 percent of the State's livestock moves through auctions, there were no market news reports covering these markets until last year. With the cooperation of the regular market news service, an experimental system was established for reporting cattle prices by grades and classes at 15 selected markets throughout the State. The regular market news service assumed the reporting responsibility after the methods were developed.

A study of the feasibility of establishing an alfalfa dehydration plant in Virginia revealed that the market for alfalfa meal within a 250-mile radius of Richmond might be large enough to support such an enterprise. At present western dehydrators serve the feed manufacturers in the area. The report on the study also contains information on construction costs, the dehydration process, and storage and marketing problems.

Information was assembled on the proportion of Virginia canned tomatoes moving through the various channels of trade and to the principal consuming centers. Over 80 percent of the tomatoes are handled by brokers. Of this amount 78 percent goes to wholesalers and 22 percent to chains. Richmond, Atlanta, Charlotte, (N. C.), and Columbia, (S. C.), are the major consuming centers for this product.

Improving livestock grading and marketing methods and expanding outlets for beef--(RM:c-2550-7)

In cooperation with the Extension Service, 10 demonstrational feeder-cattle sales were held at which cattle were graded by department specialists and sold at auction in lots of uniform size and quality. Five thousand cattle were marketed at these demonstrational sales bringing an average price of $7 to $10 per head above that of cattle sold at regular sales.

Improving practices of marketing sweet potatoes--(RM:c-2550-44)

Because Virginia sweet potatoes were bringing a lower price than those from competing areas and total acreage planted to this crop was declining, producers requested the State department of agriculture to evaluate the causes for these trends and recommend means of improving this situation. Two agencies, the Extension Service and the Truck Experiment Station, collaborated with the State department of agriculture on the study. The publication resulting from the study, "Growing and Selling Sweet Potatoes in Virginia," concluded that grading and

handling methods need improving and that too large a portion of the crop is sold uncured at harvest time, resulting in abnormally low prices due to inadequate and inefficient use of available storage. In the fall of 1953 only 62 percent of the storage was utilized and only a few Virginia potatoes were available when prices were at their peak. Other findings were that potatoes generally were not field graded and were poorly handled, only limited quantities were washed and waxed, and there was inadequate information available to producers on movement out of storage.

In cooperation with the State chamber of commerce, a State label program was initiated under which 1,000 bushels of apples were packed and promoted in Richmond and Norfolk on a trial basis. The cooperation of food editors, home service agents, and various agricultural agencies was also obtained in the program. Specialists appeared on several television and radio programs to inform consumers of the quality characteristics represented by the State label and provided dealer service to retailers. Four sample stores were selected to observe which retail marketing practices resulted in highest sales. This appraisal indicated that sales were highest where apples were displayed both in bulk and in 5-pound bags, and dealer service and advertising assistance were provided store managers. Apples packed under the State label, which carries the words, "A Product of Virginia Traditional Quality; State Inspected and Approved" brought top market prices.

Producers desiring to improve packing and marketing methods were assisted in organizing and operating apple "rings" in order that buyers might be assured of a steady supply of uniformly sized and graded apples throughout the marketing season. Apple "rings" are composed of several packing houses which operate jointly for marketing purposes.

Improving grading, handling and processing of canned tomatoes--(RM:c-3550-15)

Virginia canned tomatoes have long had a reputation for poor quality. To help remedy this situation technical assistance in improving and maintaining quality and improving operating efficiency was provided 61 local canners. In 3 years of such assistance, the proportion of the tomato pack grading substandard has been reduced from 30 to 10 percent. In addition, 33 continuous cookers, 12 exhaust boxes, and 30 stainless steel inspection tables have been installed in canneries, and 5 plants have been completely screened and 10 improved waste disposal methods brought into use. In 1954, 11 canneries used the official inspection service compared to 2 the previous year. These plants adopted the practice of buying according to grade, and plant personnel informed growers of the factors affecting quality. Canners were assisted in obtaining fly egg and mole inspections, a service offered by the official processed food inspection service.

Technical assistance in improving and establishing more efficient cotton ginning and wholesale market facilities--(RM:c-3550-33)

In Virginia, a market site study requested by the Fredericksburg City Council recommended the construction of a new wholesale and farmers' market with 3 wholesale store units and 25 farmer sheds. Several sites were suggested and it was indicated that at least 5 acres of ground would be needed for the installation. Assistance was also provided the Richmond Market Authority and the Norfolk Port Authority in planning new markets and in selecting sites in general accordance with recommendations of studies made by the U. S. Department of Agriculture. At Norfolk, it is estimated that 16 wholesale store units and 100 farmers' sheds will be needed, and the Richmond study indicates a present demand for 32 wholesale stores and 100 farmers' sheds. A farmers' market began operating at Pennington Gap to serve small farmers in Lee, Scott, and Wise Counties who have recently gone into the production of potatoes, tomatoes, sweet corn, and string beans. Grading, handling, and packing demonstrations were also provided these producers at various points in the area concerned.

With the assistance of department specialists, $250,000 worth of new equipment was installed in 12 cotton gins the past 2 years. Ginners were also assisted in improving existing equipment. During the past season, 5 meetings were held in the major cotton-producing areas to discuss production, marketing, and processing methods and practices with growers, dealers, and ginners. It is estimated that the improved quality of Virginia cotton, brought about partly from this service program, has resulted in a $200,000 increase in producer returns.

WASHINGTON

Improving marketing methods and expanding outlets for dairy products, hay, fruits, honey and beef--(RM:c-2550-39)

In Washington, the dairy industry formed an "Extra Milk Marketing Committee," to develop wider distribution of milk. This committee--composed of representatives of producers, processors and other allied groups--believed that the lack of availability of milk at possible consuming points was a major deterrent to the expansion of milk consumption. To correct this situation, the committee requested the help of the State department of agriculture in testing the use of vending machines strategically located in factories, depots, schools, and elsewhere. With the help of vending machine companies, who loaned machines for this project, information was gathered on the types of locations where sufficient milk would be consumed to justify the permanent installation of the machines. Also valuable data were obtained on the differences in consuming habits of persons engaged in various types of activity. For instance, men working in heavy industry indicated that they prefer to buy one-third of a quart at each purchase rather than the usual half pint of milk.

The pilot quality-improvement and market-expansion project for strawberries and caneberries was continued into 1954, in cooperation with producers, agricultural agencies, and the Puyallup Research Department. This project was initiated in 1953 to determine the probable market expansion that could be accomplished in the Pudget Sound area and the improvements Washington producers should make in the quality of their berries to increase their share of the market. This past year, through the use of better packs and packaging techniques and the use of gas to decrease the incidence of mold, Washington berries competed successfully with berries from other States in Seattle and inland areas. Shipments were also extended to Montana, Colorado and other nearby States, and to the city of Chicago without significant waste or spoilage. Also, new types of blackberry pie fillings were developed in cooperation with research agencies, and placed on the market. At the present time, tests of consumer acceptance are being conducted in retail stores. In cooperation with the ladies auxiliary of the Washington Cattlemen's Association, marketing specialists conducted a survey in Seattle of consumer beef-buying habits and preferences in high, medium, and low-income areas and in apartment developments for use as background information in developing a program for achieving increased per capita consumption of beef.

Since 1947 Washington beekeepers have encountered difficulty marketing all the honey they produce--the carryover actually increasing each year. To help remedy this situation a program was initiated last year to encourage increased consumption of honey. Promotional assistance was provided through radio, television, and newspapers, recipe folders were distributed to consumers; 25,000 honey cups were distributed to 3 large Seattle restaurants to test consumer acceptance of the product; arrangements were made with a large peanut butter manufacturer to investigate the possibility of making a food product out of honey and peanut butter; State institutions, bakers, candy manufacturers, and other industrial users were acquainted with the surplus problems of the industry and urged to use larger quantities of honey; and brokers, wholesalers, and jobbers were encouraged to exert additional effort to move larger quantities of the product. Although final tabulation of the influence of these activities on sales has not yet been completed, several large processors indicated that sales increased 25 to 30 percent during the program period.

Producers were assisted in moving 800 cars of surplus hay to areas suffering from drought. Representatives from drought-stricken States were furnished periodic information on freight rates from various producing areas, the quality and price of the hay being offered in each area, and the names and addresses of hay dealers. Dealers with hay for sale were kept informed of all inquiries in order that they might deal directly with buyers.

Special market information--(RM:c-4550-17)

At the request of producers, a market news program was initiated covering prices received at the farm level for all commodities, including those recently introduced to the State as a result of reclamation activities in the Columbia Basin. Prices are reported daily in mimeographed releases and over the radio for each of 3 areas into which the State has been divided for reporting purposes. Cooperating in supplying data for the report are producers, producers' wives handling the marketing of certain garden vegetables and eggs, country buyers, assembly plants, cooperatives, and farm stores.

A publication containing data on crop and livestock prospects, price trends, stocks, shipments of various products, livestock-feed price ratios, market reviews, price-support programs, and other matters is issued monthly to producers, dealers, and other marketers. These data are presented on a regional or national basis as well as a State basis where there are interrelationships important to the making of decisions by Washington producers.

WEST VIRGINIA

Improving grading, handling and marketing of livestock, tobacco, poultry and eggs, and fruits and vegetables--(RM:c-2550-56)

During the past year, feeder-cattle and -calf demonstration sales were held under the supervision of livestock specialists at 12 of the States' auction markets. All cattle were graded, classified as to size and color, dehorned, castrated, and treated for blackleg and shipping fever. Feeder calves handled in this manner brought $20 to $30 more per head than those not properly processed for sale. These sales have been very effective in acquainting producers with grading and improved handling methods and with the price benefits that accrue from producing good quality animals and marketing them on a graded basis in uniform lots of size and age. In addition, the competition created by the sales has improved prices generally throughout the State by at least $1.50 to $2 per hundredweight for all types of livestock. To encourage sheepmen to improve their breeding stock and to provide a source at which producers can obtain good foundation stock, 4 demonstrational breeding ewe and ram sales were also held in West Virginia.

Producers are further encouraged to market according to grade through grading demonstrations and assistance. Marketing specialists (1) obtained the cooperation of auction managers in promoting the use of grades in the conduct of sales, (2) trained graders at the markets, and (3) assisted and instructed producers in the grading and classification of animals being prepared for sale both on the farm and at the markets.

During calendar year 1953, 120,000 sheep and lambs, 64,000 veal and stocker calves, and 17,000 hogs were sold on a graded basis--exceeding the total number sold on this basis the previous year by more than 22,000 animals. Sales by grade were held at 19 of the 23 auction markets in the State.

The tobacco grading and handling demonstration and assistance program was primarily responsible for West Virginia producers receiving a premium of $3.40 per hundred pounds above the average for the Burley Tobacco Belt. Demonstrations were provided in various communities throughout the producing area; a department specialist was available at the market to demonstrate methods of displaying tobacco and, on sales days, to advise producers as to the price their crop should bring and the feasibility of regrading for later sale, if the price offered was considered too low.

Eggs graded, handled, stored, and packed in accordance with the methods and standards demonstrated to growers and dealers brought price premiums of 5 to 10 cents per dozen. These demonstrations were held in local communities, at the market on sales days, at fairs, and at poultry and egg shows.

The use of a broiler inspection service was promoted at 3 auction markets established by the State department of agriculture and at the Petersburg Poultry Auction Market. Flocks are inspected as to weight, health, condition, and finish of the birds and reports made to buyers for their use in bidding. About 175,000 birds move through these markets weekly. It is believed that the services provided at the market plus the market information made available through the recently initiated market news service have resulted in an increase of 4 to 5 cents per bird in the prevailing price level throughout the State.

Three farmers' auction markets were established in cooperation with civic regional-development councils to provide concentration points for the sale of farm products of all kinds, except livestock. At the markets, demonstrations were provided of proper handling and packing methods for the products offered. More than 3,500 farmers use the facilities of these markets. About 450 cases of eggs and 500 coops of poultry are sold each week the year round and, during the produce season, 350 lots of fruits and vegetables are sold weekly.

New basic data and experimental market news--(RM:c-4550-40)

A fruit tree count by age and variety made in the fall of 1953 revealed that the number of apple and peach trees in commercial orchards dropped 27 and 28 percent respectively from 1950 to 1953. However, the average bearing capacity per tree increased over that period due to the elimination of the older and less productive trees. For peaches, the Elberta variety accounted for 64 percent of the trees, the Hale Haven

11 percent, the Hale 9 percent, and the Golden Jubilee 7 percent. The most important apple variety was York which comprised 27 percent of the total, followed by Stayman, Delicious, Rome Beauty and Golden Delicious, in that order.

County estimates were published of the acreage, yield, and production of major crops and the numbers of poultry, and various types of livestock. This type of information is used not only by producers in planning their marketing program but by buyers desiring advance knowledge of the probable distribution of available supplies. A summary was largely completed of indexes of prices received for various products by West Virginia farmers since the early 1900's with comparisons with national indexes of prices received.

The State department of agriculture is sponsoring the establishment of a number of new broiler auction markets as a result of a recent survey which indicated that the growth of broiler production in several areas had outrun the development of adequate marketing facilities. Information obtained in the study included for each producer (1) the number of broilers produced in 1953, (2) the average size of flock, (3) method of marketing, and (4) whether the enterprise is producer financed or produced under contract.

An experimental market news program was initiated this past year covering broiler and turkey sales in the South Branch Valley. The daily releases show prices and movement on local West Virginia markets and on the principal competing markets in other States. Since auction prices are normally above prices received from individually negotiated sales, the proportion of the broiler output moving through the markets is increasing.

WISCONSIN

Improving marketing practices for tobacco, and experimental market news and expanding outlets for dairy products--(RM:c-2550-9)

The Wisconsin tobacco sample-grading program initiated in 1951 was participated in by 213 growers this past year at the warehouse of the Wisconsin Cooperative Tobacco Growers' Association. Participating growers submitted 3 to 5 bales, representative of their crop, for sampling and grading in their presence by Federal inspectors. This program has the objectives of increasing the volume of tobacco sold under Federal grades and showing growers the sorting methods that would maximize the proportion of their crop falling within the higher grades.

Last year a special market information program was initiated under which monthly producer settlement prices for milk and cream sold for processing were reported on a butterfat test basis or per pound of butterfat

by products manufactured. About 20 percent of the State's 1,500 plants are cooperating in the program. Such information is not only of value to producers but to the State department of agriculture in administering the regulation requiring dairy plants to indicate on settlement statements to producers, the butterfat test of their milk and the premium or discount for each tenth of a percent above or below the 3.5 percent base price.

For several years, Wisconsin has conducted an aggressive market expansion program for milk, cheese, and butter. The past year major emphasis was placed on "Cheese Week" promotion campaigns in 4 out-of-State markets. Every means of promotion was used including newspaper, radio, and television publicity and dealer service work with wholesalers and retailers. Surveys were made in 2 of these markets during the year to analyze the effectiveness of the campaigns and of specific promotional devices. Retailers in the cities surveyed, Indianapolis and Denver, reported increases in sales during the campaign week ranging from 25 to 250 percent with an average of about 150 percent. Sales decreased after the campaign, but remained significantly above precampaign levels. In the cities visited, practically all natural cheese was sold prepackaged or store packaged in a transparent wrapper. Only a few special cheese or dairy stores were cutting and wrapping as ordered by customers. The simultaneous development of (1) techniques for packaging natural cheese and (2) supermarkets with extensive facilities for displaying attractively packaged cheese, has revolutionized cheese merchandising and made possible substantial increases in sales.

Encouragement and assistance was also provided in the expansion of the gift-cheese industry. The shipment of special packages about the country has done much to acquaint consumers with the various types of cheese available. Persons desiring to establish a gift-cheese business were provided with the names of firms manufacturing gift boxes and the names and addresses of plants which assemble assortments of cheese for wholesale distribution. An exhibit of Wisconsin cheese was maintained at the International Dairy Show in Chicago. Over 15,000 samples of American, Swiss, Brick, and Italian cheeses were given to persons visiting the exhibit.

Technical assistance to cooperative marketing associations and to cheese producers--(RM:c-3550-11)

Wisconsin continued its program of assisting cooperative dairy plants to increase their efficiency and effectiveness and in their consolidation programs. The services include advice on methods of reorganizing, developing volume, financing; and settling with growers for milk; and help in planning membership relations, and marketing programs. Since 1949 the number of dairy plants has declined from 2,250 to 1,807 with an accompanying increase in volume handled per plant. The larger plants are generally more efficient and handle a full line of products, permitting more flexibility to fit production schedules with demand. Fluid-milk

bargaining associations composed of producers serving the larger cities were furnished market information periodically and were assisted in improving their membership relations programs.

Department specialists assisted a Statewide livestock marketing cooperative, with headquarters at the Milwaukee market, in developing concentration points at which farmers may receive cash upon delivery. Assistance was also provided in organizing local transportation associations to move livestock from the farm to these concentration points or to a terminal market. Through this assistance and other means, the cooperative has built its volume of livestock sold through concentration points and at terminal markets to 15 percent of the State total making possible more efficient operations and more effective bargaining in the interest of producers. Assistance in building volume was also provided the Statewide wool-marketing cooperative. This association handles 75 percent of the wool produced in the State and sells through the National Wool Marketing Corporation. Association members usually receive 5 cents per pound above dealers' prices for the sale of their wool.

Farmers in several areas in the State were assisted in organizing cooperatives for marketing logs from farm woodlots. Specialists from the State forestry service help the assocations select, cut, grade, and market the logs.

Egg producers were assisted in organizing and developing operating procedures for a marketing association. This cooperative is now operating in 20 counties and markets about 2,700 cases of graded eggs per week.

Considerable technical assistance was provided in the development of cheese packages designed to maintain quality for longer periods; attract the attention of consumers with respect to design, weight, size, and shape; and, result in economies of packaging operations, handling, and storage. Formerly, Swiss cheese was produced in unwrapped wheels. However, with the present demand for sandwich loaves, it was necessary to turn to blocks for ease and economy in making loaves. Several Swiss cheese factories are now producing rindless blocks using the "Honor" method which involves wrapping the block of curd in pliofilm secured at the ends with scotch tape and then curing the block in a box to prevent bulging.

Better yields of cheese per hundred pounds of milk are also realized using the Honor method since the pliofilm prevents shrinkage. Because of these increased yields, producer prices for milk for Swiss cheese manufacture have increased as much as 40 cents per 100 pounds. Department specialists are developing another method for producing blocks in which the curd is compressed with convex plates in the center of the two surfaces in which flatness is desired sufficiently to compensate for the expansion that occurs during subsequent curing.

Retail cheese counters in Wisconsin and out-of-State stores were checked for moldly packages and inquiry was made as to methods by which mold in prepacked cheese can be reduced. Swiss-cheese manufacturers

were assisted in developing more effective methods of salting cheese--historically a problem in Swiss cheese making. Tests on butter packaging have demonstrated which packaging materials provide the most protection against light and odors, and producers are being encouraged to use these types of materials.

New basic data for farm products--(RM:c-4550-5)

Producers and processors need data on basic supply and demand trends in order to develop effective marketing programs. Important types of information required are trends in production, changes in consumer demand, the competitive price situation in markets, quantities in storage and the rate of disappearance, and methods of improving processing, packaging, grading, handling and storing techniques. Basic data of this general type were collected, analyzed, and reported on dairy products, livestock, cranberries, poultry and eggs, maple products, Christmas trees, and honey.

Commercial broilers now account for almost 40 percent of all chickens marketed in Wisconsin compared to only 2 percent in 1934. A publication entitled "Wisconsin Broilers" includes data on commercial hatchery output by counties, seasonality of hatchery production, breeds of broiler chicks hatched, trends in the production and price of Wisconsin broilers, per capita consumption of poultry, and broiler production in competing States. A study is currently under way on purchasing and marketing practices of egg buyers. Each buyer is being asked: What proportion of the eggs received during a given period were ungraded, sorted for size only, and graded for size and internal quality? Were payments made on a graded or "straight run" basis? What marketing channels do you use?

Developing and expanding markets for whey and skim milk are major problems to the Wisconsin dairy industry. This is especially true of whey, two-thirds of which returns to farms for hog feed. The development of more food uses for this product would increase its economic value and result in higher producer returns. At the request of processors, a bulletin was published for each product last year covering methods of disposal, volume produced by areas, products manufactured, utilization by areas, seasonal changes in supply, and other information.

More of Wisconsin's milk is now eligible for Grade A classification largely as a result of the quality program initiated in 1951 by the State department of agriculture. This increased supply has created new marketing problems which require additional data to help the industry plan the development of new and expanded outlets. Last year, considerable progress was made on the collection and analysis of basic data on outshipments of Grade A milk, milk prices, milk production by townships, percent of farms producing Grade A milk, and size and location of dairy manufacturing operations. Over 10,000 copies of a publication entitled "Wisconsin Dairying" is issued monthly in cooperation with the Crop and Livestock Service. This publication contains current data on supplies and prices and markets for dairy products, frequently on a county basis.

For beef cattle, a publication was issued giving data on marketing channels used, seasonal distribution of sales, methods of marketing, and other basic data by crop reporting districts, and on types of cattle and calves on farms in 1953 and 1954 by counties. Quarterly pig reports were initiated providing producers with year around information on hog marketings and sow breeding intentions. Reports were made to farmers on the number of feeder pigs purchased and sold in Wisconsin in 1953.

Data on the production and marketing of Wisconsin cranberries were published last year including projections of supply by varieties based on rate of plantings and age and production of existing plantings; trends in the volume sold for processing and for fresh consumption; seasonal pattern of sales; price trends; and methods of packaging fresh berries. Information was assembled on methods of marketing canning peas and corn and on the acreage and production of these commodities on a county basis. Work was initiated on studies of trends in the production and marketing of maple products and Christmas trees and on methods of marketing these products.

Improving the quality of dairy products--(RM:c-3550-26)

Survey activities under the butter quality program were terminated on July 1, 1954 with the activation of a recently enacted law regulating the grading and labeling of Wisconsin butter. Investigations conducted under the program were used as the principal basis for the provisions of the law. The available resources are now devoted to training industry graders, and acquainting retailers and consumers through television programs and other media with the meaning of the various grades and labels and the ways of maintaining quality in the store and home.

For a number of years, the butter industry has been assisted in achieving improved quality of the raw materials it uses--cheese-plant-separated whey cream and farm-separated "milk cream." Dairy specialists working with resident dairy inspectors examine the cream coming into butter plants, trace causes of poor quality through to their source, and advise and assist in correcting quality maintenance methods and installing the proper equipment. Since 1951, there has been a significant improvement in butter quality principally as a result of improvement in raw material quality. In January 1954, for example, 70 percent of all butter samples submitted to the Dairy and Food Control Laboratory graded AA or A compared to 41 percent the same month in 1951. Over the same period the proportion falling below the B grade (90 score) declined from 35 to 5 percent.

In certain counties quality improvement services are being provided on a very intensive basis with an inspector assigned full time to work at all levels of distribution. These services were terminated in Crawford County after a 5-year program and have been provided in Sheboygan County for 3 years and Wood County for 1 year. During the period the program has operated in Sheboygan County, the proportion of cheese

qualifying for packaging under the Wisconsin State brand increased from 89 to 98 percent of the total compared to an increase of from 90 to 94 percent over the same period for all the cheese produced in the State. The proportion of milk delivered to dairy plants falling into the top grade, according to the bacteriological test, totaled 82 percent the first 6 months of 1954 compared to 77 percent in 1951. According to the sediment test, the percent grading No. 1 increased from 19 to 24 percent over the same period.

Large expenditures are presently being made in bulk-milk and cleaned-in-place (c.i.p.) pipe-line installations in dairy plants and on farms serving these plants. It is expected that 50 plants will be handling part or all of their milk supplies with these types of equipment by the middle of 1955. Since bulk and c.i.p. installations involve new quality-control problems, dairy specialists in cooperation with industry committees developed tentative minimum standards for the equipment and its use. These standards were approved by the Dairy Federation and may be presented to the next session of the State Legislature for its consideration.

The operation of the Swiss-Cheese Laboratory under matched funds was concluded last year. Plans for financing the laboratory in the future have not yet crystallized but the industry appears very anxious to see its services continued. Services provided cheesemakers over the past few years include (1) the provision of active starter cultures as needed; (2) assistance in microscope work with raw milk slides in the laboratory and in the field; (3) plate counts on raw milk and processed products; and (4) trouble-shooting assistance in the plants. From 1950 to the first 6 months of 1954, the proportion of Swiss cheese produced qualifying for the 2 top Wisconsin grades increased from 85 to 91 percent as compared to the average increase for all plants in the State of 64 to 68 percent over the same period.

A study was initiated this past year to establish the relationship of the influence of the bacteriological test of raw milk on its utilization. This work is still in the preliminary stages and conclusive results are not yet available.

To assist ice-cream and fluid-milk plants to improve the consumer acceptability of their products, a flavor-testing service was initiated with the cooperation of the Department of Dairy Industry, of the College of Agriculture. Samples of bottled milk and ice cream are obtained 4 times a year directly from the plant storage rooms and scored at the College. Score sheets are then sent to the plant with off-flavors noted, if any, accompanied by recommendations for means of accomplishing their elimination.

WYOMING

Basic data on livestock and dairy products--(RM:c-4550-38)

Receipts from cattle and calf marketings account for about 43 percent of total farm cash receipts in Wyoming. To assist producers and marketing organizations in planning their marketing programs, the Wyoming Department of Agriculture continued to collect, analyze, and report information on the movement of Wyoming cattle including county of origin, destination, month of movement, and method of movement by class of cattle. These data also had an unforeseen value to State officials in administering the drought-assistance program during the past year. A comparison of out movement of cattle by counties in 1954 with similar data for previous years indicated the areas from which shipment was abnormal and in which, therefore, drought damage was likely most severe.

The collection and analysis of data on inshipments and outshipments of milk and cream was continued. This service provides those dairy producers contemplating expanding their production and new producers with information helpful in determining the extent of competition from nearby States and the possibilities for marketing outside the State. Marketing researchers of the University of Wyoming are also finding the data useful in developing production and consumption trends.

RECENT PUBLICATIONS ISSUED

COTTON

Louisiana

Location and Number of Cotton Gins in Louisiana by Parishes. State Department of Agriculture and Immigration, Baton Rouge, January 1, 1955.

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